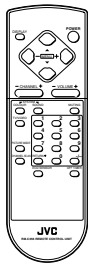
JVC

SERVICE MANUAL

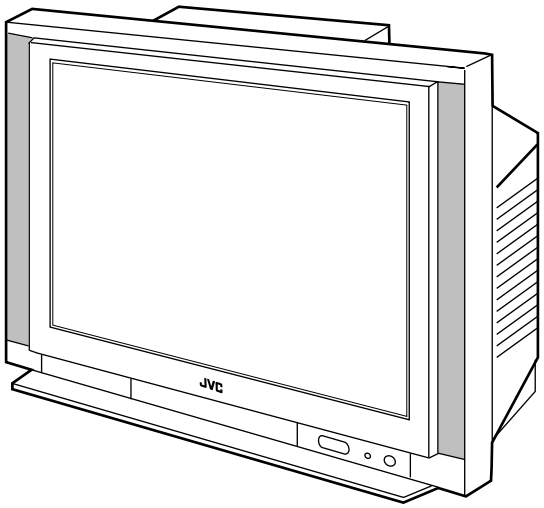
COLOUR TELEVISION

BASIC CHASSIS
CH

AV-29LXB
AV-29LXB(-A)



RM-C357-1C



CONTENTS

■ SPECIFICATIONS 2
■ SAFETY PRECAUTIONS 3
■ FEATURES 4
■ FUNCTIONS 5
■ SPECIFIC SERVICE INSTRUCTIONS 6
★ OPERATING INSTRUCTIONS (APPENDIX) 1-1
■ SERVICE ADJUSTMENTS 14
★ STANDARD CIRCUIT DIAGRAM (APPENDIX) 2-1
■ PARTS LIST 37

COPYRIGHT © 2001 VICTOR COMPANY OF JAPAN, LTD.

No. 51841
Aug. 2001

SPECIFICATIONS

Items		Contents
Dimensions (W × H × D)		73.2cm × 58.8cm × 51.8cm
Mass		50kg
TV RF System		B, G, I, D, K, M
Colour System	TV Mode	PAL / SECAM / NTSC3.58 / NTSC4.43
	VIDEO Mode	PAL / SECAM / NTSC3.58 / NTSC4.43
Stereo System		Playback Only
Receiving Frequency	VHF (VL)	46.25MHz – 140.25MHz (AU0 – S6)
	VHF (VH)	147.25MHz – 423.25MHz (S7 – S36)
	UHF	431.25MHz – 863.25MHz (S37 – CHINA 57)
	CATV	● Cable TVs of Mid (X-Z, S1-S10) Super (S11-S20) & Hyper (S21-S41) bands receivable
Intermediate Frequency	VIF Carrier	38.0MHz
	SIF Carrier	31.5MHz (6.5MHz) 32.0MHz (6.0MHz) 32.5MHz (5.5MHz) 33.5MHz (4.5MHz)
Colour Sub Carrier Frequency		PAL (4.43MHz), SECAM (4.40625MHz / 4.25MHz) NTSC (3.58MHz / 4.43MHz)
Aerial Input Terminal		75Ω Unbalanced
Power Input		AC110 – 240V, 50 / 60Hz
Power Consumption		195W (Max.) / 120W (Avg.)
Picture Tube		Visible size : 68cm measured diagonally
High Voltage		32kV +1/–1.5kV (at cut-off in service mode)
Speaker		3.5cm +10cm, Round type ×2
Audio Output		15W ×2
Video / Audio Input (1 / 2 / 3)		Video(1,3) : 1Vp-p, 75Ω (RCA pin jack) Audio(1,2,3) : 500mVrms (-4dBs), High Impedance (RCA pin jack) Component Input (Input 2) Y : 1Vp-p positive (negative sync provided, when terminated with 75Ω) C_B/C_R : 0.7Vp-p 75Ω
Video/Audio Output		1Vp-p, 75Ω (RCA pin jack) 500mVrms(-4dBs) Low impedance (400Hz when modulated 100%) (RCA pin jack)
Headphone Jack		Stereo mini jack (3.5ϕ)
Remote Control Unit		RM-C357-1C (Battery size: AA/R06/UM-3 × 2)

Design & specifications are subject to change without notice.

SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

4. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
   Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED (NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND. Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time.
   If above note will not be kept, a fuse or any parts will be broken.

5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).

6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.

7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

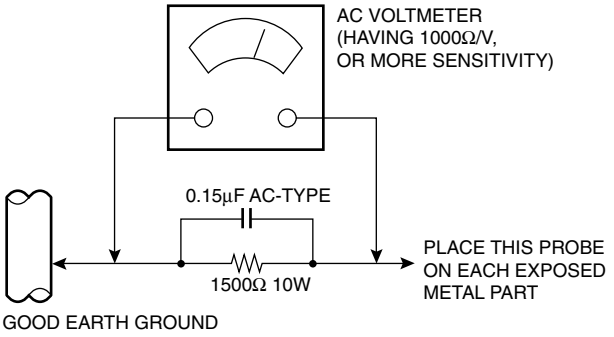
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

9. **Isolation Check**
   (Safety for Electrical Shock Hazard)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.
(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires a test equipment not generally found in the service trade.

(2) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

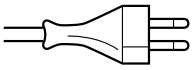
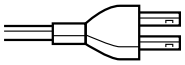
● **Alternate Check Method**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15µF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



FEATURES

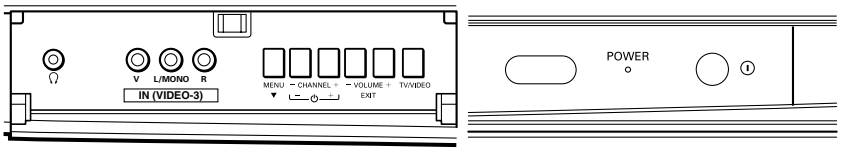
- New chassis design enables use of an interactive on-screen control.
- Pure flat CRT produces fine textured picture in every detail.
- Wide range voltage (110V ~ 240V) for AC power input.
- With AUDIO/VIDEO/COMPONENT input terminals.
- I^2C bus control utilizes single chip ICs.
- By means of AUTO PROGRAM, the TV stations can be selected automatically and the TV channels can also be rearranged automatically.
- Built-in DIGITAL ECO MODE (ECONOMY, ECOLOGY).
  In accordance with the brightness in a room, the brightness and/or contrast of the picture can be adjusted automatically to make the optimum picture which is easy on the eye.
- Built-in ON TIMER & RETURN +.

MAIN DIFFERENCE LIST

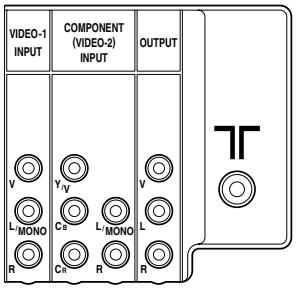
⚠	MODEL No. / Part Name	AV-29LXB	AV-29LXB-A
⚠	POWER CORD	QMP40D0-200J5 or QMP40D0-200J3 	QMPR010-200-E2 or QMPR010-200-K2 
⚠	RATING LABEL	LC20377-010B-H	LC20413-002B-H
⚠	CONVERSION PLUG	—	QAM0055-001

FUNCTIONS

■ FRONT PANEL

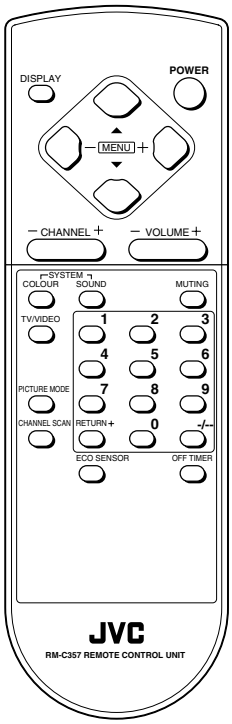


■ REAR PANEL



■ REMOTE CONTROL UNIT

RM-C357-1C



SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

REMOVING THE REAR COVER

1. Unplug the AC power cord.
2. Remove the 16 screws marked Ⓐ as shown in Fig.1.
3. Withdraw the Rear cover toward you.

[CAUTION]

- When reinstalling the rear cover, carefully push it inward after inserting the Main PWB into the rear cover groove.

REMOVING THE CHASSIS (CHASSIS BASE AND CONTROL BASE)

- After removing the rear cover.

1. Slightly raise the both sides of the chassis by hand and remove the 2 claws marked Ⓑ under the chassis from the front cabinet as shown in Fig.1.
2. Withdraw the chassis backward.

   (If necessary, take off the wire clamp, connector's etc.)

   * When conducting a check with power supplied, be sure to confirm that the CRT earth wire is connected to the CRT SOCKET PWB and the Main PWB.

REMOVING THE AV TERMINAL BOARD

- After removing the rear cover.

1. Remove the 4 screws marked Ⓒ as shown in Fig.1.
2. When you pull out the AV Terminal board in the direction of arrow marked Ⓓ as shown in Fig.1, it can be removed.

REMOVING THE CONTROL BASE

- After removing the rear cover and the chassis.

1. While pushing down the 2 claws maked Ⓔ as shown in Fig. 2.
2. When you pull out the Control base in the direction of arrow maked Ⓕ as shown in Fig. 2.
   (If necessary, take off the wire, connector's etc.)

REMOVING THE DOME SPEAKER BOX

- After removing the rear cover.

1. Remove the lower side screw marked "Ⓖ" first, and then the upper side screw as shown in Fig. 1.
2. Follow the same step for removing the other hand speaker box.

CHECKING THE MAIN PW BOARD

1. To check the back side of the Main PWB.
   1) Pull out the chassis. (Refer to REMOVING THE CHASSIS).
   2) Erect the chassis vertically so that you can easily check the back side of the Main PWB.

[CAUTION]

- When erecting the chassis, be careful so that there will be no contacting with other PW Board.
- Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.
- When repairing, connect the Deg. coil to the DEG. connector on the Main PWB.

WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together. Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

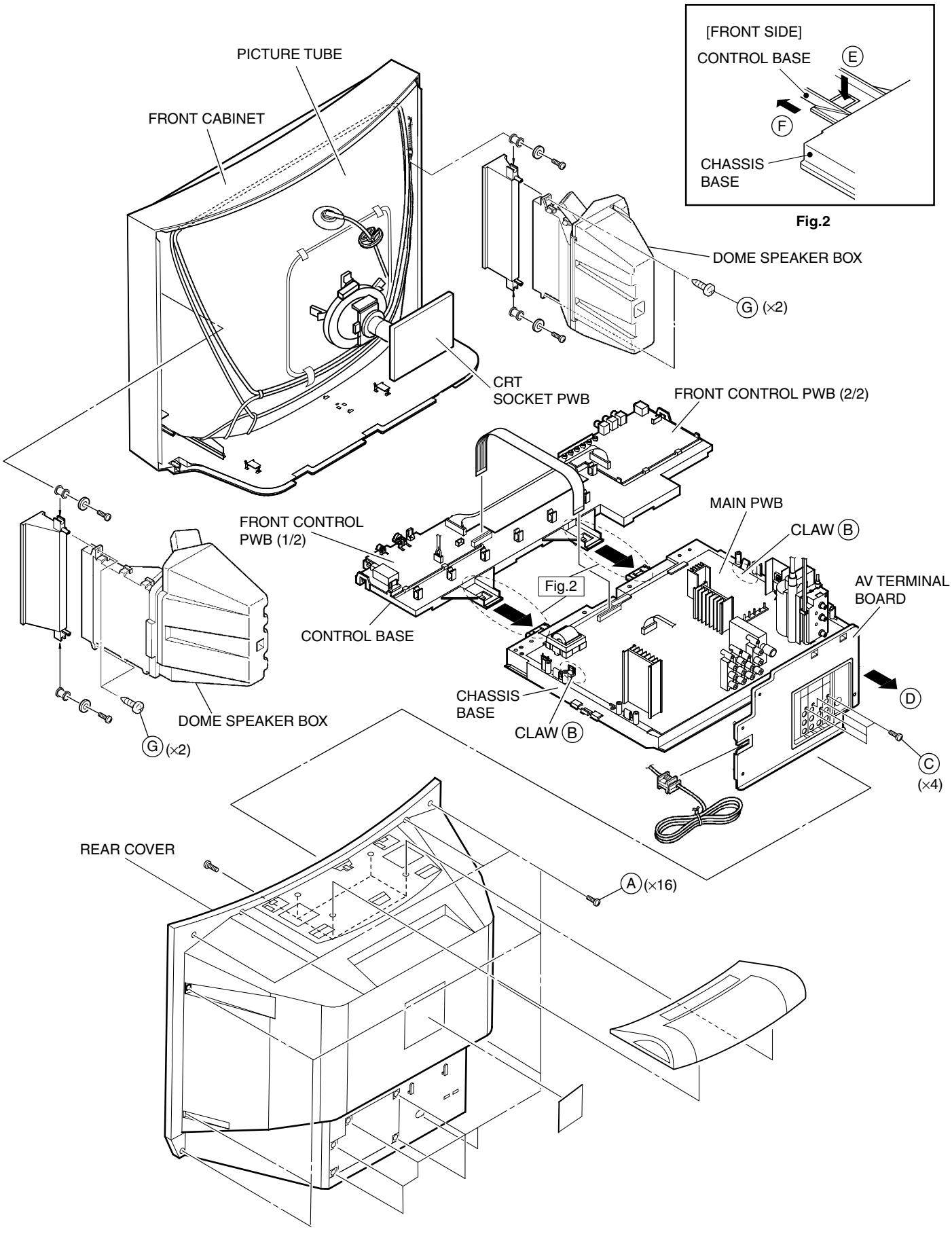

[FRONT SIDE]
CONTROL BASE
E
F
CHASSIS BASE
PICTURE TUBE
FRONT CABINET
DOME SPEAKER BOX
G (×2)
CRT SOCKET PWB
FRONT CONTROL PWB (2/2)
MAIN PWB
CLAW B
FRONT CONTROL PWB (1/2)
Fig.2
AV TERMINAL BOARD
CONTROL BASE
CHASSIS BASE
CLAW B
D
C (×4)
DOME SPEAKER BOX
G (×2)
REAR COVER
A (×16)

Fig.1

Fig.2

REMOVING THE CRT

* Replacement of the CRT should be performed by 2 or more persons.

● After removing the rear cover, chassis etc.,

1. Putting the CRT change table on soft cloth, the CRT change table should also be covered with such soft cloth (shown in Fig. 3).
2. While keeping the surface of CRT down, mount the TV set on the CRT change table balanced will as shown in Fig. 4.
3. Remove 4 screws marked by arrows with a box type screwdriver as shown in Fig. 4.

● Since the cabinet will drop when screws have been removed, be sure to support the cabinet with hands.

4. After 4 screws have been removed, put the cabinet slowly on cloth (At this time, be carefully so as not to damage the front surface of the cabinet) shown in Fig. 5.

● The CRT should be assembled according to the opposite sequence of its dismounting steps.

* The CRT change table should preferably be smaller that the CRT surface, and its height be about 35cm.

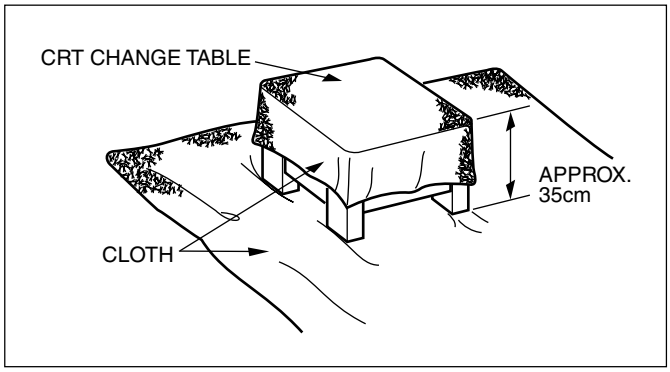


Fig. 3

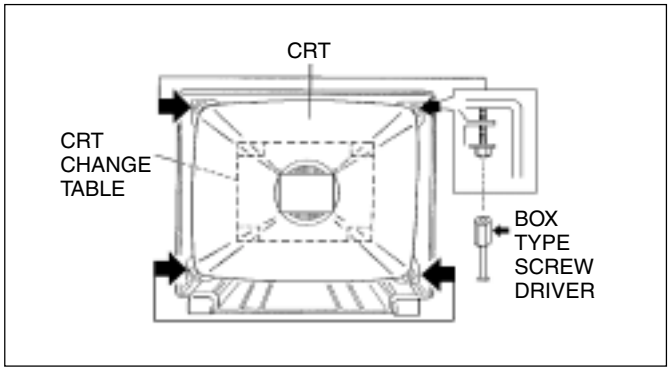


Fig. 4

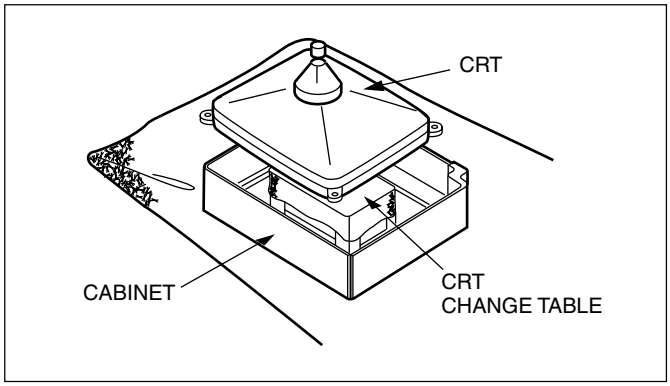


Fig. 5

COATING OF SILICON GREASE FOR ELECTRICAL INSULATION ON THE CRT ANODE CAP SECTION.

● Subsequent to replacement of the CRT and HV transformer or repair of the anode cap, etc. by dismounting them, be sure to coat silicon grease for electrical insulation as shown in Fig. 6.

1. Wipe around the anode button with clean and dry cloth. (Fig. 6)
2. Coat silicon grease on the section around the anode button. At this time, take care so that any silicon greases dose not sticks to the anode button. (Fig. 7)

★ **Silicon grease product No. KS - 650N**

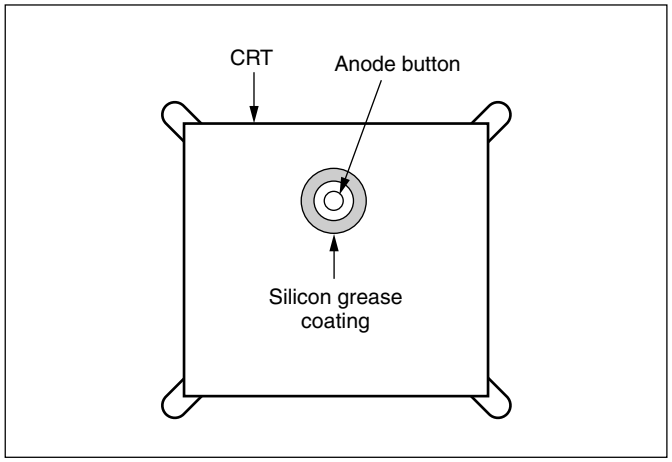


Fig. 6

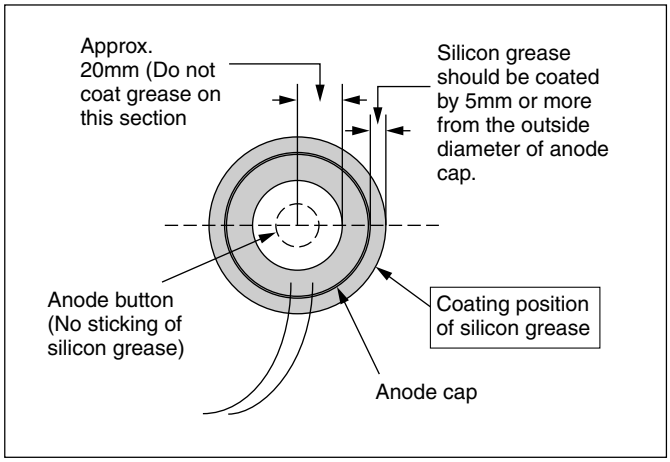


Fig. 7

REPLACEMENT OF MEMORY IC

1. MEMORY IC

This TV uses the following memory IC.

Memory IC: IC1702 on MAIN PW Board

The memory IC memorizes data for correctly operating the video and deflection circuits. When replacing the memory IC, be sure to use the same type IC written with the initial values of data. In other words, use the specific IC listed in “PRINTED WIRING BOARD PARTS LIST”. For its mounting location, refer to “ADJUSTMENT LOCATIONS”.

2. PROCEDURE FOR REPLACING MEMORY IC

(1) Power off

Switch the power off and unplug the power cord from the wall outlet.

(2) Replacing the memory IC

Replace the memory IC with new one. Be sure to use the memory IC written with the initial data values.

(3) Power on

Plug the power cord into the wall outlet and switch the power on.

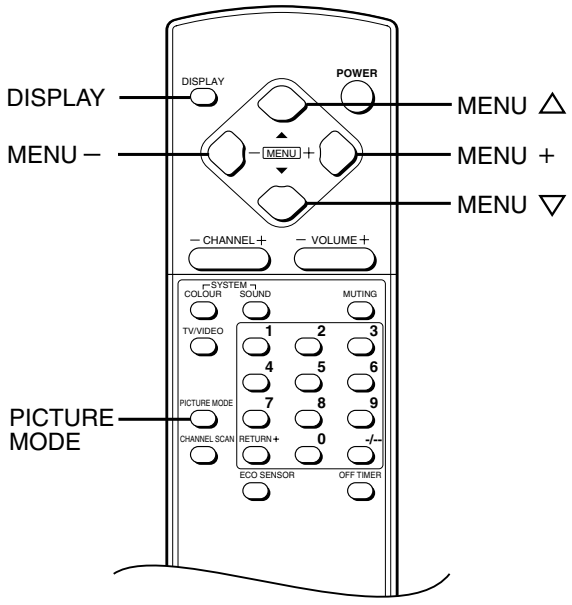
(4) Check and setting of SYSTEM CONSTANT SET:

1) Press the DISPLAY key and the PICTURE MODE key on the remote control unit simultaneously.
   The SERVICE MENU screen will be displayed.(See Fig.1.)
2) In the SERVICE MENU, press the DISPLAY key and PICTURE MODE key simultaneously. Then, the SYSTEM CONSTANT SET screen will be displayed.(See Fig.2.)
3) Check whether the setting values of the SYSTEM CONSTANT SET are the same as those indicated in Table1.
   If the value is different, select the setting item with the MENU ▽/△ key, and set the correct value with the MENU –/+key.
4) Press the DISPLAY key twice to return to the normal screen.

(5) Receive channel setting

Refer to the **OPERATING INSTRUCTIONS** and set the receive channels (channels preset).

NAME OF REMOTE CONTROL KEYS



(6) User setting

Check the user setting values in Table 2, and if setting value is different, set the correct value.

For setting, refer to the **OPERATING INSTRUCTIONS**.

(7) Setting of SERVICE MENU

Verify the setting for each setting item in the SERVICE MENU.(See Table 3.) If readjustment is necessary, perform adjustment referring to “SERVICE ADJUSTMENTS”.

SERVICE MENU

```
SERVICE MENU

1. IF              2. VC
3. DEF             4. VSM PRESET
5. PRESET
6. PLUG & PLAY (OFF)
1-6 : SELECT       DISPLAY : EXIT

******* **** ***** *****
     **** **** *** ***
```

Fig. 1

SYSTEM CONSTANT-Ⅰ

```
SYSTEM CONSTANT  SET 1

SYSTEM            MULTI
COMB              YES
TILT              YES
TEXT              NO
SUPER BASS        NO
LANGUAGE          E / R / A / F

▲▼ : SEL   –+ : OPE   DISP : EXIT
```

SYSTEM CONSTANT-Ⅱ

```
SYSTEM CONSTANT  SET 2

MSP               NO
BILINGUAL         NO
B / B SOUND       NO
TUNER             MU
COLOUR AUTO       NO

▲▼ : SEL   –+ : OPE   DISP : EXIT
```

SYSTEM CONSTANT-Ⅲ

```
SYSTEM CONSTANT  SET 3

LOCK  1 MHz       020
        500 kHz   020
        250 kHz   020
     156.25 kHz   015
      31.25 kHz   015

▲▼ : SEL   –+ : OPE   DISP : EXIT
```

Fig. 2

SETTING OF SYSTEM CONSTANT SET

Setting item	Setting content	Setting value	
		AV-29LXB	AV-29LXB-A
SYSTEM	MULTI → TRIPLE	MULTI	←
COMB	YES → NO	YES	←
TILT	YES → NO	YES	←
TEXT	YES → NO	NO	←
SUPPER BASS	YES → NO	NO	←
LANGUAGE	E/R/C → E/R/A/F → E/F → E/A → E/R ← E/C ← E/A/F	E/R/A/F	←
MSP	YES → NO	NO	←
BILINGUAL	YES → NO	NO	←
B/B SOUND	YES → NO	NO	YES
TUNER	MU → MA	MU	←
COLOUR AUTO	YES → NO	NO	YES
LOCK 1MHz	000 → 024	020	←
500KHz	000 → 024	020	←
250KHz	000 → 024	020	←
156.25KHz	000 → 024	015	←
31.25KHz	000 → 024	015	←

Table 1

USER SETTING VALUES

Setting item	Setting value
SUB POWER	ON
CHANNEL POSITION	1 POSITION
CHANNEL PRESET	REFER TO OPERATING INSTRUCTIONS
VOLUME	15 ± 2
TV/VIDEO	TV
VNR	OFF
COMPRESS (16:9)	OFF
AUTO SHUTOFF	OFF
CHILD LOCK	OFF
BLUE BACK	ON
VIDEO-2 SET	VIDEO
LANGUAGE	ENG
MONO SURROUND	OFF
AI VOLUME	ON
ON SCREEN DISPLAY	POSITION INDICATION
COLOUR SYSTEM	PAL
SOUND SYSTEM	B/G
PICTURE MODE-VSM	BRIGHT
OFF TIMER	00
ECO SENSOR	OFF
PICTURE TILT	00
BASS	CENTRE
TREBLE	CENTRE
BALANCE	CENTRE

Table 2

SERVICE MENU SETTING ITEMS

Service menu	Setting item
1. IF	1. VCO 2. DELAY POINT
2. VC	1. CUTOFF(R/G) 2. DRIVE(R/G/B) 3. BRIGHT 4. CONT 5. COLOUR 6. TINT 7. SHARP 8. YDELAY **Do not adjust**
3. DEF	1. VER. SLOPE 2. VER. HEIGHT 3. VER. POSITION 4. VER. SCURVE 5. HOR. POSITION 6. HOR. WIDTH 7. EW-PIN 8. EW-TRAPEZ 9. UP CORNER 10. DW CORNER 11. HOR. PARALL 12. HOR. BOW 13. V. ZOOM
4. VSM PRESET **(BRIGHT/STD/SOFT)** **Do not adjust**	1. TINT 2. COLOUR 3. BRIGHT 4. CONT 5. SHARP
5. PRESET **Do not adjust**	1. CB 2. ACL 3. MUS 4. MAT 5. FCO 6. BPS 7. IFLH 8. VID 9. STM 10. AFCW 11. VSW 12. FFI 13. AGC 14. CL 15. AKB 16. HBL 17. BKS 18. READ STATUS 19. VNR
6. PLUG & PLAY(OFF) **Do not adjust**	

Table 3

REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

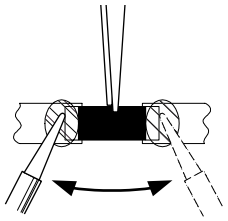
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

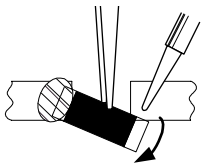
1. How to remove Chip parts

◆ **Resistors, capacitors, etc.**

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

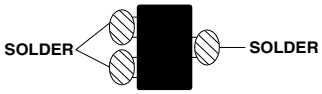


(2) Shift with tweezers and remove the chip part.

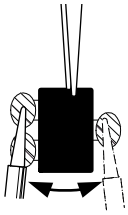


◆ **Transistors, diodes, variable resistors, etc.**

(1) Apply extra solder to each lead.



(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

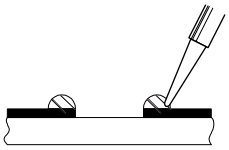


Note : After removing the part, remove remaining solder from the pattern.

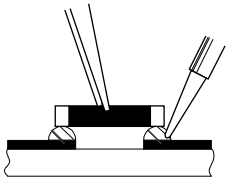
2. How to install Chip parts

◆ **Resistors, capacitors, etc.**

(1) Apply solder to the pattern as indicated in the figure.



(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

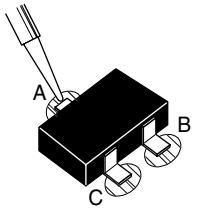


◆ **Transistors, diodes, variable resistors, etc.**

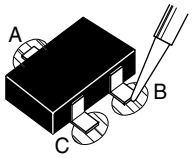
(1) Apply solder to the pattern as indicated in the figure.

(2) Grasp the chip part with tweezers and place it on the solder.

(3) First solder lead **A** as indicated in the figure.



(4) Then solder leads **B** and **C**.



SERVICE ADJUSTMENTS

ADJUSTMENT PREPARATION:

1. **You can make the necessary adjustments for this unit with either the remote control unit or with the adjustment equipment and parts as given below.**
2. **Adjustment with the remote control unit is made on the basis of the initial setting values, however, the new setting values which set the screen to its optimum condition may differ from the initial settings.**
3. Make sure that AC power is turned on correctly.
4. Turn on the power for the set and test equipment before use, and start the adjustment procedures after waiting at least 30 minutes.
5. Unless otherwise specified, prepare the most suitable reception or input signal for adjustment.
6. Never touch any adjustment parts, which are not specified in the list for this adjustment-variable resistors, transformers, capacitors, etc.
7. Presetting before adjustment.
   Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit.

● User mode setting position

Setting item	Setting value
PICTURE MODE(VSM)	BRIGHT
VNR	OFF
BASS,TREBLE,BALANCE	CENTRE
TINT,COLOUR,BRIGHT,CONT,SHARP	CENTRE

MEASURING INSTRUMENT

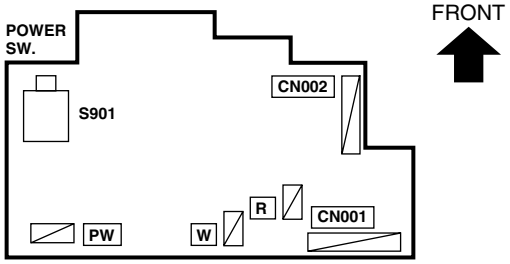
1. DC voltmeter (or Digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [PAL/SECAM/NTSC]
4. Remote control unit

ADJUSTMENT ITEMS

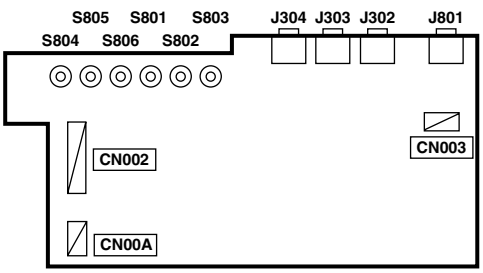
- B1 POWER SUPPLY
- FOCUS adjustment
- IF circuit adjustment
  - VCO (CW) adjustment
  - DELAY POINT adjustment
- VC (VIDEO/CHROMA) circuit adjustment
  - WHITE BALANCE (Low light) adjustment
  - WHITE BALANCE (High light) adjustment
  - SUB BRIGHT adjustment
  - SUB CONT adjustment
  - SUB COLOUR adjustment
  - SUB TINT adjustment
- DEFLECTION circuit adjustment
  - VER. SLOPE adjustment
  - VER. POSITION adjustment
  - V. ZOOM adjustment
  - HOR. POSITION adjustment
  - HOR. WIDTH adjustment
  - EW-PIN adjustment
  - EW-TRAPEZ adjustment
  - VER. SCURVE adjustment
  - UP CORNER and DW CORNER adjustment
  - HOR. PARALL adjustment
  - HOR. BOW adjustment
- VSM PRESET adjustment
- PRESET adjustment
- PURITY and CONVERGENCE adjustments
  - PURITY adjustment
  - STATIC CONVERGENCE adjustment
  - DYNAMIC CONVERGENCE adjustment

ADJUSTMENT LOCATIONS

FRONT CONTROL PWB(1/2)

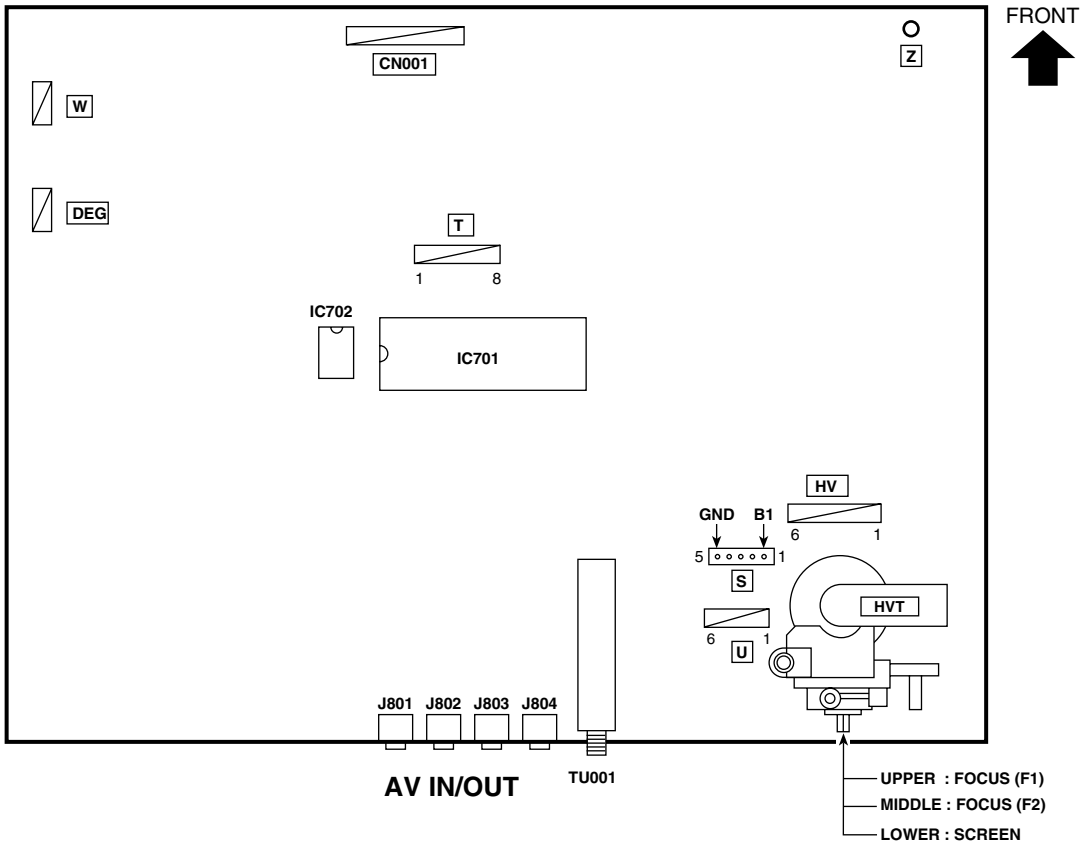


FRONT CONTROL PWB(2/2)

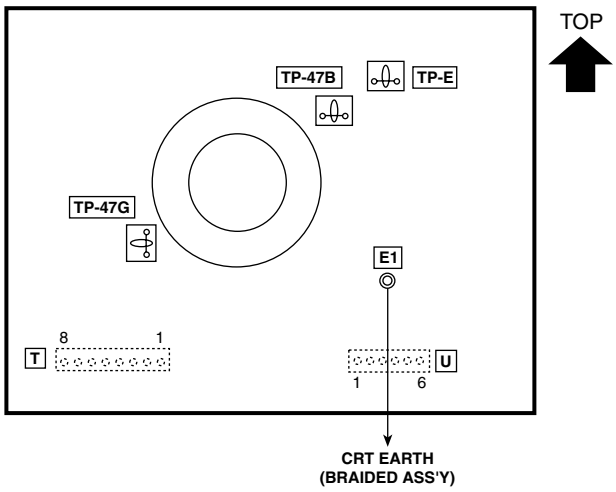


S801 : CH UP +
S802 : CH DOWN –
S803 : MENU
S804 : TV/VIDEO
S805 : VOL UP+
S806 : VOL DOWN –

MAIN PWB



CRT SOCKET PWB (SOLDER SIDE)



BASIC OPERATION IN SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the remote control unit.

2. SERVICE MENU ITEMS

With the SERVICE MENU,various settings (adjustments)can be made,and they are broadly classified in the following items of settings:

- 1.IF ..... For entering/adjusting the setting values (adjustment values)of the IF circuit.
- 2.VC ..... For entering/adjusting the setting values (adjustment values)of the VIDEO/CHROMA circuit.
- 3.DEF ..... For entering/adjusting the setting values (adjustment values)of the DEFLECTION circuit.
- 4.VSM PRESET ..... For setting the values of STANDARD,SOFT and BRIGHT. (VSM:video status memory)
- 5.PRESET ..... For setting the values of the preset.
- 6.PLUG & PLAY (OFF). ..... This is not used for service.

3. BASIC OPERATION IN SERVICE MENU

(1) How to enter SERVICE MENU

Press the DISPLAY key and the PICTURE MODE key on the remote control unit simultaneously.
The SERVICE MENU screen will be displayed. (See Fig. 1 on the next page.)

(2) Selection of SUB MENU SCREEN

Press one of the keys 1 to 6 on the remote control unit,and select the SUB MENU SCREEN from the SERVICE MENU.(See Fig.1 on the next page.)

SERVICE MENU → SUB MENU
1. IF
2. VC
3. DEF
4. VSM PRESET
5. PRESET
6. PLUG & PLAY (OFF)

(3) Method of Setting

*Once the setting values are set,they are memorized automatically.
*It must not adjust without inputting a signal.

1) 1. IF

[1.VCO]

(a) 1 Key ..... Select **1.IF**.
(b) 1 Key ..... Select **1.VCO**.
(c) DISPLAY Key ..... When this pressed twice, you will return to the SERVICE MENU.
- Under normal conditions, no adjustment is required.

[2.DELAY POINT]

(a) 1 Key ..... Select **1. IF**.
(b) 2 Key ..... Select **2.DELAY POINT**.
(c) MENU –/+Key ..... Adjust the setting value.
(d) DISPLAY Key ..... When this is pressed twice, you will return to the SERVICE MENU.

2) 2. VC, 3. DEF, 4. VSM PRESET and 5. PRESET

(a) 2 ~5 Keys ..... Select one from **2. VC**, **3. DEF**, **4. VSM PRESET** and **5. PRESET**.
(b) MENU ▽/△ key ..... Select setting items.
(c) MENU –/+Key ..... Adjust the setting values of the setting items.
- Use the number keys on the remote control unit for setting of WHITE BALANCE. For the setting, refer to each item concerned.

(d) DISPLAY Key ..... When this is pressed, you will return to the SERVICE MENU.

3) 6. PLUG & PLAY (OFF)

This is not used for service.

(4) Release of SERVICE MENU

After completing the setting, return to the SERVICE MENU by pressing the DISPLAY key, then again press the DISPLAY key to return to the normal screen.

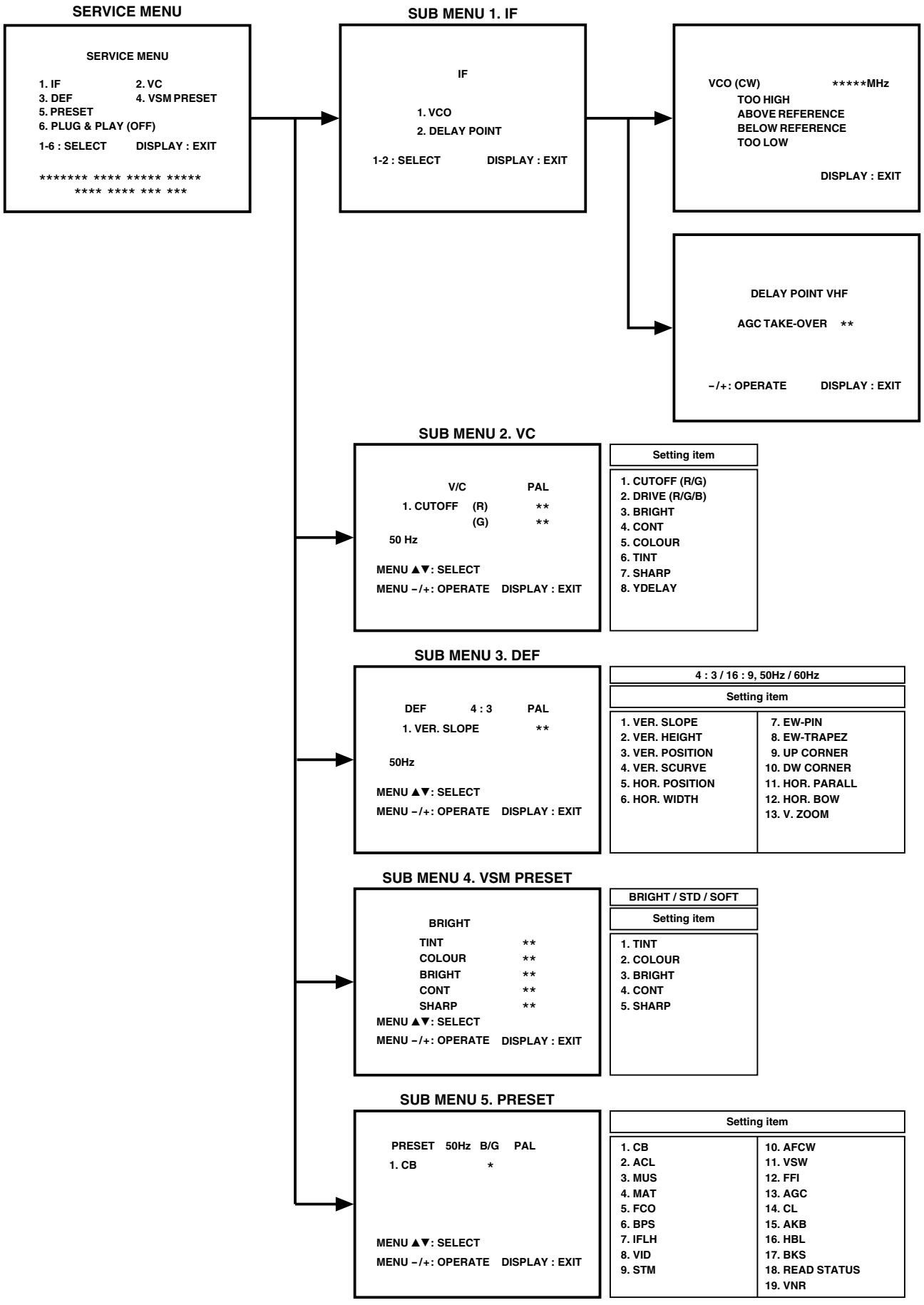

SERVICE MENU
SERVICE MENU
1. IF
2. VC
3. DEF
4. VSM PRESET
5. PRESET
6. PLUG & PLAY (OFF)
1-6 : SELECT
DISPLAY : EXIT
******* **** ***** *****
**** **** *** ***
SUB MENU 1. IF
IF
1. VCO
2. DELAY POINT
1-2 : SELECT
DISPLAY : EXIT
VCO (CW)
*****MHz
TOO HIGH
ABOVE REFERENCE
BELOW REFERENCE
TOO LOW
DISPLAY : EXIT
DELAY POINT VHF
AGC TAKE-OVER
**
–/+: OPERATE
DISPLAY : EXIT
SUB MENU 2. VC
V/C
PAL
1. CUTOFF
(R)
**
(G)
**
50 Hz
MENU ▲▼: SELECT
MENU –/+: OPERATE
DISPLAY : EXIT
Setting item
1. CUTOFF (R/G)
2. DRIVE (R/G/B)
3. BRIGHT
4. CONT
5. COLOUR
6. TINT
7. SHARP
8. YDELAY
SUB MENU 3. DEF
DEF
4 : 3
PAL
1. VER. SLOPE
**
50Hz
MENU ▲▼: SELECT
MENU –/+: OPERATE
DISPLAY : EXIT
4 : 3 / 16 : 9, 50Hz / 60Hz
Setting item
1. VER. SLOPE
2. VER. HEIGHT
3. VER. POSITION
4. VER. SCURVE
5. HOR. POSITION
6. HOR. WIDTH
7. EW-PIN
8. EW-TRAPEZ
9. UP CORNER
10. DW CORNER
11. HOR. PARALL
12. HOR. BOW
13. V. ZOOM
SUB MENU 4. VSM PRESET
BRIGHT
TINT
**
COLOUR
**
BRIGHT
**
CONT
**
SHARP
**
MENU ▲▼: SELECT
MENU –/+: OPERATE
DISPLAY : EXIT
BRIGHT / STD / SOFT
Setting item
1. TINT
2. COLOUR
3. BRIGHT
4. CONT
5. SHARP
SUB MENU 5. PRESET
PRESET
50Hz
B/G
PAL
1. CB
*
MENU ▲▼: SELECT
MENU –/+: OPERATE
DISPLAY : EXIT
Setting item
1. CB
2. ACL
3. MUS
4. MAT
5. FCO
6. BPS
7. IFLH
8. VID
9. STM
10. AFCW
11. VSW
12. FFI
13. AGC
14. CL
15. AKB
16. HBL
17. BKS
18. READ STATUS
19. VNR

Fig. 1

ADJUSTMENTS

B1 POWER SUPPLY

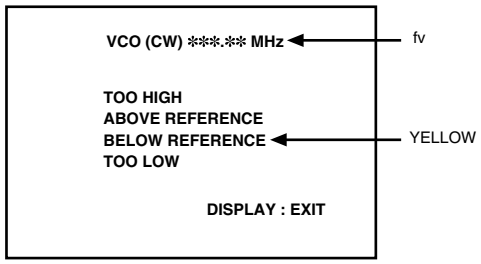
Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 POWER SUPPLY	**Signal Generator** **DC Voltmeter**	**B1 (pin 1) GND (pin 5) [CN00S connector]**		1. Receive a black and white signal. 2. Connect a DC voltmeter between B1 and GND (between pins 1 and 5 of the connector CN00S). 3. Make sure that the voltage is **DC134.5 ± 2V**.

FOCUS ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of FOCUS	**Signal generator**		**FOCUS VR1,2 [In HVT]**	**Notes:** • Proceed to the following this adjustment after having completed the adjustments of B1 POWER SUPPLY, SUB BRIGHT and SUB CONT. • Set PICTURE MODE (VSM) to "BRIGHT". • The final adjustment of CONVERGENCE must be done after the FOCUS adjustment. (CONVERGENCE is changed by FOCUS adjustment.) When makes difference by FOCUS adjustment, should be reconfirming PURITY adjustment. 1. Receive a cross-hatch signal. 2. While looking at the screen centre, adjust the FOCUS VR2 (F2) so that the horizontal lines will be clear and in fine detail. 3. Adjust the FOCUS VR1 (F1) so that the vertical lines will be clear and in fine detail. 4. Make sure that the picture is in focus even when the screen gets darkened.

IF CIRCUIT ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of VCO (CW)	**Remote control unit**		**VCO (CW)**	**Note:** • Under normal conditions, no adjustment is required. 1. Select **1. IF** from the SERVICE MENU. 2. Select **1. VCO** by pressing the **1** key on the remote control unit. 3. Receive a broadcast signal. 4. Check the characters colour of the **BELOW REFERENCE** displayed to **yellow**. 5. Press the DISPLAY key three times to return to normal screen.
Adjustment of DELAY POINT	**Remote control unit**		**DELAY POINT (AGC TAKE-OVER)**	1. Receive a black and white broadcast signal (colour off). 2. Select **1. IF** from the SERVICE MENU. 3. Select **2. DELAY POINT** by pressing the **2** key on the remote control unit. 4. Adjust the MENU –/+ key in order to eliminate any noise or beat from the image. Any increase above the initial value produces noise and any decrease below it produces beat. 5. Press the DISPLAY key three times to return to the normal screen. 6. Turn to other channels and make sure that there are no irregularities.



Setting (Adjustment time)		Initial setting value
DELAY POINT (AGC TAKE-OVER)	NTSC 3.58	17
	OTHERS	15

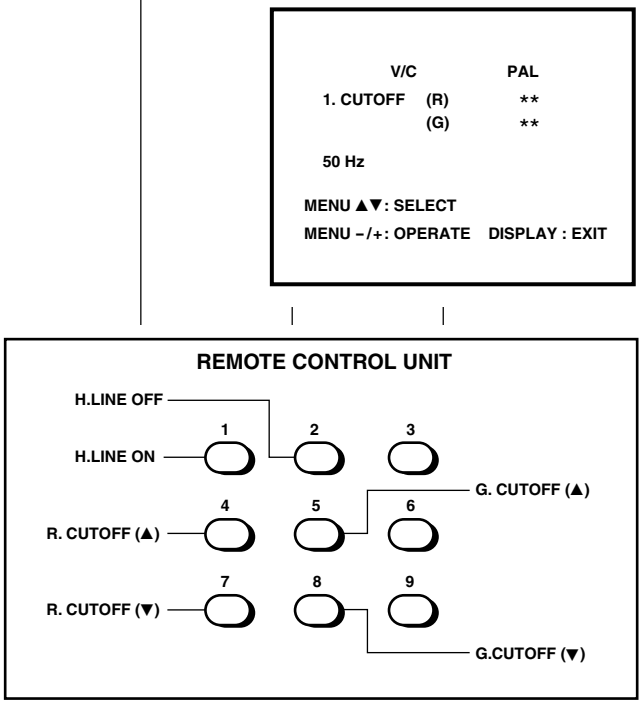
VC (VIDEO/CHROMA) CIRCUIT ADJUSTMENT

The setting (adjustment) using the remote control unit is made on the basis of the initial setting values.
The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
● Do not change the initial setting values of the setting (adjustment) items not listed in "ADJUSTMENT".

[SUB MENU 2. VC] **: Do not adjust.**

	Setting (Adjustment) item	Variable range	Initial setting value				
			PAL	SECAM	NTSC3.58	NTSC4.43	COMPONENT
1	CUTOFF(R/G)	–7 — +8	0	←	←	←	←
2	DRIVE(R/G/B)	–30 — +31	0	←	←	←	←
3	BRIGHT(COM./TV/V-1/V-2/V-3)	–30 — +31	–1/–16/0/0/0	←	←	←	–1
4	CONT	–30 — +31	0	←	←	←	—
5	COLOUR	–30 — +31	–5	–3	–12	+1	+10
6	TINT (TV/VIDEO)	–30 — +31	—	—	–15/+6	+1/+1	—
7	SHARP (TV/VIDEO)	–30 — +31	–24/–10	←	←	←	—/0
8	YDELAY (TV/VIDEO)	–8 — +7	0/+1	+5/+1	0/+1	+5/0	—

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE (Low light)	**Signal generator** **Remote control unit**		**1. CUTOFF (R)** **CUTOFF (G)** **SCREEN VR [In HVT]**	**Note:** • Set PICTURE MODE (VSM) to "BRIGHT". 1. Receive a PAL black and white signal (colour off). 2. Select **2. VC** from the SERVICE MENU. 3. Select **1. CUTOFF (R)** and **(G)** with MENU ▽/△ key, and set each value to initial setting value with the **4** and **7** keys, or **5** and **8** keys on the remote control unit. 4. Press the **1** key on the remote control unit to produce a single horizontal line. 5. Turn the SCREEN VR fully counterclockwise, then slowly turn it clockwise to where a red, blue or green colour is faintly visible. 6. Use the keys **4** and **7** or **5** and **8** on the remote control unit and adjust the other 2 colours to where the single horizontal line appears white. 7. Turn the SCREEN VR to where the single horizontal line glows faintly. 8. Press the **2** key to return to **1. CUTOFF** screen. 9. Press the DISPLAY key twice to return to the normal screen.



Setting (Adjustment) Item		Variable range	Initial setting value
1. CUT OFF	R	–7 — +8	0
	G	–7 — +8	0

<table>
<tr><th>Item</th><th>Measuring instrument</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr>
<td>Adjustment of WHITE BALANCE (High light)</td>
<td>Signal generator

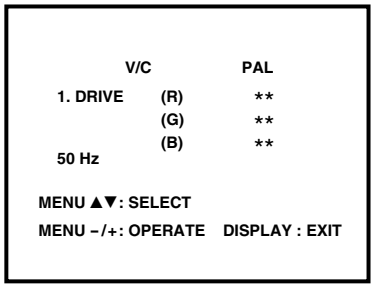
Remote control unit</td>
<td></td>
<td>2. DRIVE (R)
DRIVE (G)
DRIVE (B)</td>
<td>Notes:
• Proceed to the following this adjustment after having completed the adjustment of LOW LIGHT WHITE BALANCE.
• Set PICTURE MODE (VSM) to “BRIGHT”.

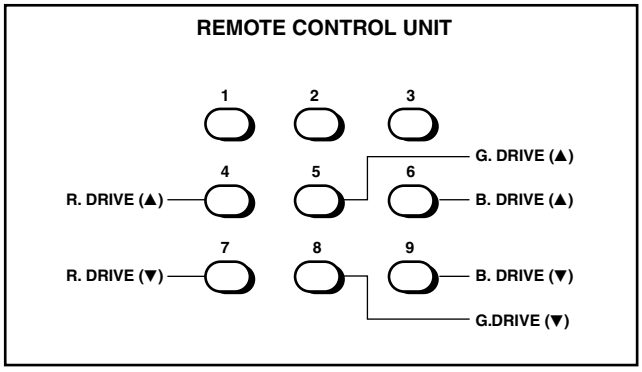
1. Receive a PAL black and white signal (colour off).
2. Select 2. VC from the SERVICE MENU.
3. Select 2. DRIVE (R), (G) and (B) with MENU ▽/△ key,and set each value to initial setting value with the 4 to 9 keys on the remote control unit.
4. Use the keys 4 to 9 to produce a white screen.
5. Press the DISPLAY key twice to return to the normal screen.

<table>
<tr><th colspan="2">Setting (Adjustment) Item</th><th>Variable range</th><th>Initial setting value</th></tr>
<tr><td rowspan="3">2. DRIVE</td><td>R</td><td>–30 — +31</td><td>0</td></tr>
<tr><td>G</td><td>–30 — +31</td><td>0</td></tr>
<tr><td>B</td><td>–30 — +31</td><td>0</td></tr>
</table>
</td>
</tr>
<tr>
<td>Adjustment of SUB BRIGHT</td>
<td>Remote control unit</td>
<td></td>
<td>3. BRIGHT</td>
<td>Notes:
• Proceed to the following this adjustment after having completed the adjustments of LOW LIGHT WHITE BALANCE and HIGH LIGHT WHITE BALANCE.
• Set PICTURE MODE (VSM) to “BRIGHT”.

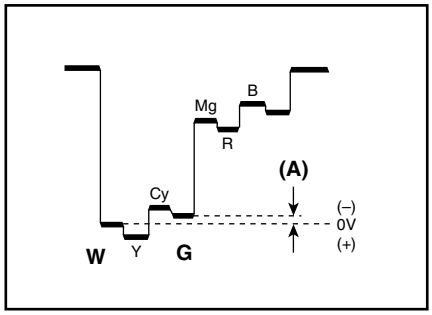
1. Receive a broadcast.
2. Select 2. VC from the SERVICE MENU.
3. Select 3. BRIGHT with the MENU ▽/△ key.
4. Set the initial setting value with the MENU –/+ key.
5. If the brightness is not best with the initial setting value, make fine adjustment until you get the best brightness.
6. Press the DISPLAY key twice to return to the normal screen.</td>
</tr>
<tr>
<td>Adjustment of SUB CONT</td>
<td>Remote control unit</td>
<td></td>
<td>4. CONT</td>
<td>Notes:
• Proceed to the following this adjustment after having completed the adjustment of SUB BRIGHT.
• Set PICTURE MODE (VSM) to “BRIGHT”.

1. Receive a broadcast.
2. Select 2. VC from the SERVICE MENU.
3. Select 4. CONT with the MENU ▽/△ key.
4. Set the initial setting value with the MENU –/+ key.
5. If the contrast is not best with the initial setting value, make fine adjustment until you get the best contrast.
6. Press the DISPLAY key twice to return to the normal screen.</td>
</tr>
</table>

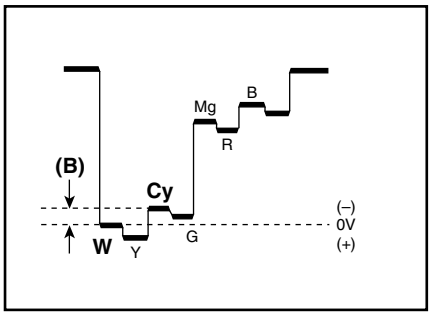




Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB COLOUR-I	**Remote control unit**		**5. COLOUR**	**[Method of adjustment without measuring instrument]** **Notes:** • Proceed to the following this adjustment after having completed the adjustment of SUB CONT. • Set PICTURE MODE (VSM) to "BRIGHT". **– PAL COLOUR –** 1. Receive a PAL broadcast. 2. Select **2. VC** from the SERVICE MENU. 3. Select **5. COLOUR** with the MENU ▽/△ key. 4. Set the initial setting value for PAL COLOUR with the MENU –/+ key. 5. If the colour is not best with the initial setting value, make fine adjustment until you get the best colour. 6. Press the DISPLAY key twice to return to the normal screen. **– SECAM COLOUR –** 7. Receive a SECAM broadcast. 8. Press the COLOUR SYSTEM button on the remote control unit to select the SECAM colour system. 9. Make fine adjustment of SECAM COLOUR in the same way as for "PAL COLOUR". **– NTSC 3.58 COLOUR –** 10. Receive a NTSC 3.58MHz broadcast. 11. Press the COLOUR SYSTEM button on the remote control unit to select the NTSC 3.58 colour system. 12. Make similar fine adjustment of NTSC 3.58 COLOUR in the same way as for "PAL COLOUR". **– NTSC 4.43 COLOUR –** When adjustment is done for NTSC 3.58 COLOUR, appropriate values are automatically set for NTSC 4.43 COLOUR.
Adjustment of SUB COLOUR-II	**Signal generator** **Oscilloscope** **Remote control unit**	**TP-47G TP-E (⏚) [CRT SOCKET PWB]**	**5. COLOUR**	**[Method of adjustment using measuring instrument]** **Notes:** • Proceed to the following this adjustment after having completed the adjustment of SUB CONT. • Set PICTURE MODE (VSM) to "BRIGHT". **– PAL COLOUR –** 1. Receive a PAL colour bar signal (full field colour bar 75% white). 2. Select **2. VC** from the SERVICE MENU. 3. Select **5. COLOUR** with the MENU ▽/△ key. 4. Set the initial setting value of PAL COLOUR with the MENU –/+ key. 5. Connect the oscilloscope between TP-47G and TP-E. 6. Adjust PAL COLOUR to set the value **(A)** in the figure to **+8V (V_{W-G})**. **– SECAM COLOUR –** 7. Receive a SECAM colour bar signal (full field colour bar 75% white). 8. Press the COLOUR SYSTEM button on the remote control unit to select the SECAM colour system. 9. Set the initial setting value of SECAM COLOUR with the MENU –/+ key. 10. Adjust SECAM COLOUR to set the value **(A)** in the figure to **+2V (V_{W-G})**. **– NTSC 3.58 COLOUR –** 11. Receive a NTSC 3.58 colour bar signal (full field colour bar 75% white). 12. Press the COLOUR SYSTEM button on the remote control unit to select the NTSC 3.58 colour system. 13. Set the initial setting value of NTSC 3.58 COLOUR with the MENU –/+ key. 14. Adjust NTSC 3.58 COLOUR to set the value **(A)** in the figure to **+2V (V_{W-G})**. **– NTSC 4.43 COLOUR –** When adjustment is done for NTSC 3.58 COLOUR, appropriate values are automatically set for NTSC 4.43 COLOUR.



Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB TINT-I	**Remote control unit**		**6. TINT**	**[Method of adjustment without measuring instrument]** **Notes:** • Proceed to the following this adjustment after having completed the adjustment of SUB CONT. • Set PICTURE MODE (VSM) to "BRIGHT". **– NTSC 3.58 TINT –** 1. Receive a NTSC 3.58 colour bar signal (full field colour bar 75% white). 2. Press the COLOUR SYSTEM button on the remote control unit to select the NTSC 3.58 colour system. 3. Select **2. VC** from the SERVICE MENU. 4. Select **6. TINT** with the MENU ▽/△ key. 5. Set the initial setting value of NTSC 3.58 with the MENU –/+ key. 6. If you cannot get the best tint with the initial setting value, make fine adjustment until you get the best tint. 7. Press the DISPLAY key twice to return to the normal screen. **– NTSC 4.43 TINT –** When adjustment is done for NTSC 3.58 TINT, appropriate values are automatically set for NTSC 4.43 TINT.
Adjustment of SUB SUB TINT-II	**Signal generator** **Oscilloscope** **Remote control unit**	**TP-47G TP-E (⏚) [CRT SOCKET PWB]**	**6. TINT**	**[Method of adjustment using measuring instrument]** **Notes:** • Proceed to the following this adjustment after having completed the adjustment of SUB CONT. • Set PICTURE MODE (VSM) to "BRIGHT". **– NTSC 3.58 TINT –** 1. Receive a NTSC 3.58 colour bar signal (full field colour bar 75% white). 2. Press the COLOUR SYSTEM button on the remote control unit to select the NTSC 3.58 colour system. 3. Select **2. VC** from the SERVICE MENU. 4. Select **6. TINT** with the MENU ▽/△ key. 5. Set the initial setting value of NTSC 3.58 with the MENU –/+ key. 6. Connect the oscilloscope between TP-47G and TP-E. 7. Adjust NTSC 3.58 TINT to set the value **(B)** in the figure to **0V ($V_{W\text{-}Cy}$)**. 8. Press the DISPLAY key twice to return to the normal screen. **– NTSC 4.43 TINT –** When adjustment is done for NTSC 3.58 TINT, appropriate values are automatically set for NTSC 4.43 TINT.



DEFLECTION CIRCUIT ADJUSTMENT

The setting (adjustment) using the remote control unit is made on the basis of the initial setting values.
The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

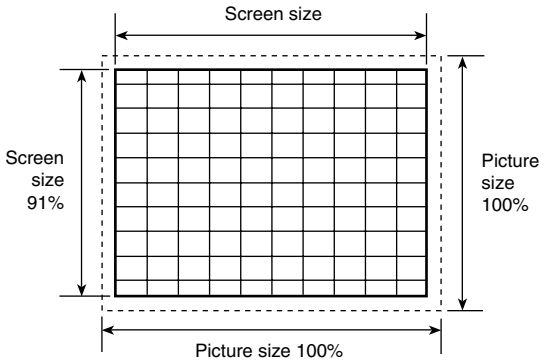
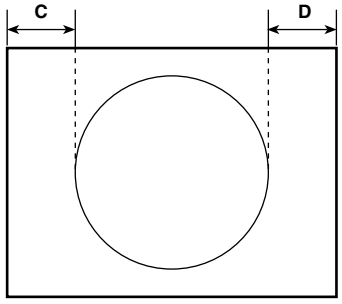
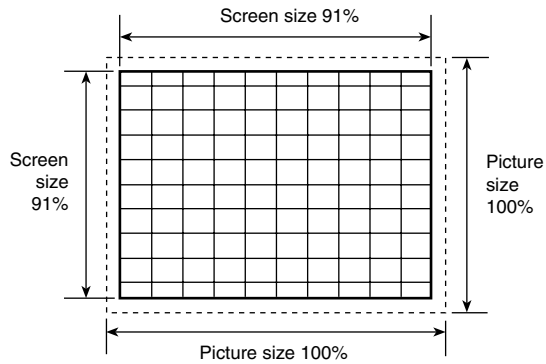
Note:
Proceed to the following this adjustment after having completed the adjustments of SUB BRIGHT and SUB CONT.

[SUB MENU 3. DEF]

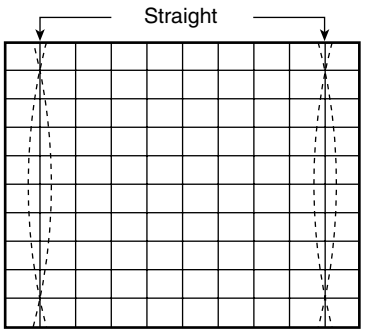
Setting (Adjustment) item	Variable range	Initial setting value				
		4:3		COMPRESS(16:9)		COMPONENT DVD(50Hz/60Hz)
		50Hz	60Hz	50Hz	60Hz	
1. VER. SLOPE	–31 — +31	+3	0	—	—	—
2. VER. HEIGHT	–31 — +31	+31	0	–29	–24	—
3. VER. POSITION	–31 — +31	+2	–1	—	—	—
4. VER. SCURVE	–31 — +31	–21	0	—	—	—
5. HOR. POSITION	–31 — +31	–4	+7	—	—	+7
6. HOR. WIDTH	–31 — +31	+11	–1	—	—	—
7. EW-PIN	–31 — +31	–11	–1	–13	–12	—
8. EW-TRAPEZ	–31 — +31	0	0	—	—	—
9. UP CORNER	–31 — +31	–25	0	0	0	—
10. DW CORNER	–31 — +31	–25	0	0	0	—
11. HOR. PARALL	–31 — +31	0	0	—	—	—
12. HOR. BOW	–31 — +31	0	0	—	—	—
13. V.ZOOM	–31 — +31	–1	–1	+14	+6	—

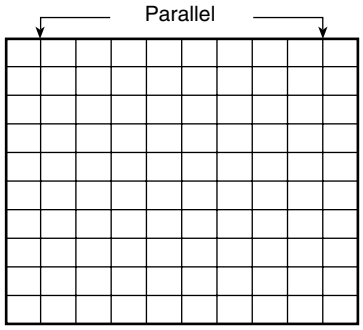
[fv : 50Hz mode]

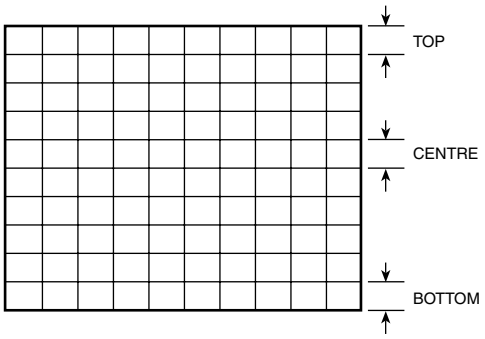
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of VER. SLOPE	**Signal generator** **Remote control unit**		**1. VER. SLOPE**	1. Receive a PAL circle pattern signal of vertical frequency 50Hz. 2. Select **3. DEF** from the SERVICE MENU. 3. Select **1. VER. SLOPE** with the MENU ▽/△ key. 4. Set the initial setting value of **1. VER. SLOPE** with the MENU –/+ key. 5. Adjust **1. VER. SLOPE** to make "**A = B**" with the MENU –/+ key.
Adjustment of VER.POSITION	**Signal generator** **Remote control unit**		**3. VER. POSITION**	6. Select **3. VER. POSITION** with the MENU ▽/△ key. 7. Set the initial setting value of **3. VER. POSITION** with the MENU –/+ key. 8. Adjust **3. VER. POSITION** to make "**A = B**" with the MENU –/+ key. (to be continued)

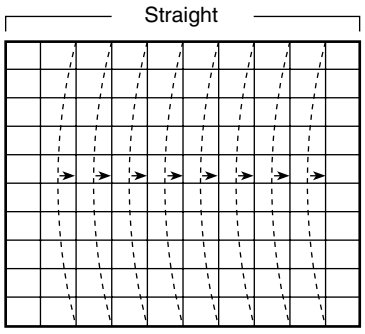
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V. ZOOM	**Signal generator** **Remote control unit** 		**2. VER. HEIGHT** **13. V. ZOOM**	9. Receive a PAL cross-hatch signal. 10. Select **2. VER. HEIGHT** with the MENU ▽/△ key. 11. Set the initial setting value of **2. VER. HEIGHT** with the MENU –/+ key. 12. Select **13. V. ZOOM** with the MENU ▽/△ key. 13. Set the initial setting value of **13. V. ZOOM** with the MENU –/+ key. 14. Adjust **13. V. ZOOM** and make the vertical screen size 91% of the picture size with the MENU –/+ key.
Adjustment of HOR. POSITION	**Signal generator** **Remote control unit** 		**5. HOR. POSITION**	15. Receive a PAL circle pattern signal. 16. Select **5. HOR. POSITION** with the MENU ▽/△ key. 17. Set the initial setting value of **5. HOR. POSITION** with the MENU –/+ key. 18 Adjust **5. HOR POSITION** to make "**C=D**" with the MENU –/+ key.
Adjustment of HOR. WIDTH	**Signal generator** **Remote control unit** 		**6. HOR. WIDTH**	19. Receive a PAL cross-hatch signal. 20. Select **6. HOR. WIDTH** with the MENU ▽/△ key. 21. Set the initial setting value of **6. HOR. WIDTH** with the MENU –/+ key. 22. Adjust **6. HOR. WIDTH** and make the horizontal screen size 91% of the picture size with the MENU –/+ key. (to be continued)

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of EW-PIN	**Signal generator** **Remote control unit**		**7. EW-PIN**	23. Select **7. EW-PIN** with the MENU ▽/△ key. 24. Set the initial setting value of **7. EW-PIN** with the MENU –/+ key. 25. Adjust **7. EW-PIN** so that the first vertical lines at the left and right edges on the screen are straight.
Adjustment of EW-TRAPEZ	**Signal generator** **Remote control unit**		**8. EW-TRAPEZ**	26. Select **8. EW-TRAPEZ** with the MENU ▽/△ key. 27. Set the initial setting value of **8. EW-TRAPEZ** with the MENU –/+ key. 28. Adjust **8. EW-TRAPEZ** so that the vertical lines at the left and right edges on the screen are in parallel.
Adjustment of VER. SCURVE	**Signal generator** **Remote control unit**		**4. VER. SCURVE**	29. Select **4. VER. SCURVE** with the MENU ▽/△ key. 30. Set the initial setting value of **4. VER. SCURVE** with the MENU –/+ key. 31. Adjust **4. VER. SCURVE** so that the spaces of each line on TOP, CENTRE and BOTTOM become uniform. (to be continued)



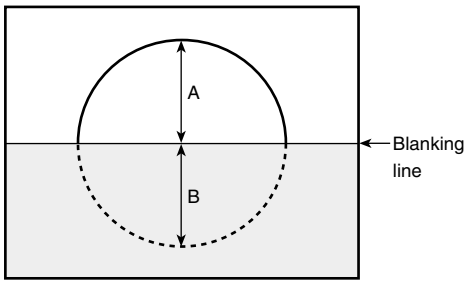


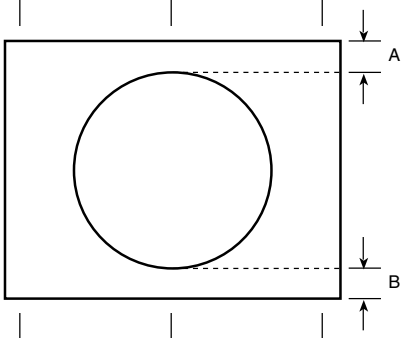


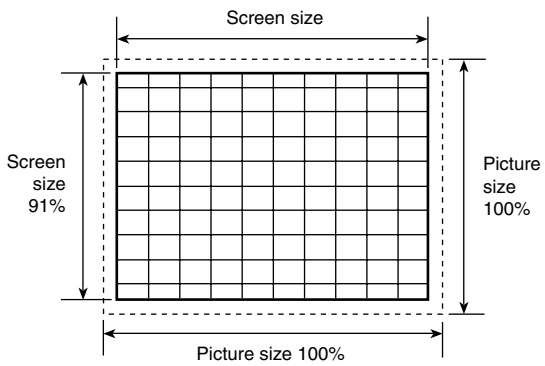
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of UP CORNER and DW CORNER	**Signal generator** **Remote control unit**		**9. UP CORNER** **10. DW CORNER**	32. Select **9. UP CORNER** with the MENU ▽/△ key. 33. Set the initial setting value of **9. UP CORNER** with the MENU –/+ key. 34. Select **10. DW CORNER** with the MENU ▽/△ key. 35. Set the initial setting value of **10. DW CORNER** with the MENU –/+ key. 36. Adjust **9. UP CORNER** and **10. DW CORNER** so that the vertical lines at the four corners on the screen are straight.
Adjustment of HOR. PARALL	**Signal generator** **Remote control unit**		**11. HOR. PARALL**	37. Select **11. HOR. PARALL** with the MENU ▽/△ key. 38. Set the initial setting value of **11. HOR. PARALL** with the MENU –/+ key. 39. Adjust **11. HOR. PARALL** to optimize the parallelogram distortion.
Adjustment of HOR. BOW	**Signal generator** **Remote control unit** 		**12. HOR. BOW**	40. Select **12. HOR. BOW** with the MENU ▽/△ key. 41. Set the initial setting value of Select **12. HOR. BOW** with the MENU –/+ key. 42. Adjust **12. HOR. BOW** to optimize the horizontal arc distortion. 43. Press the DISPLAY key twice to return to the normal screen.

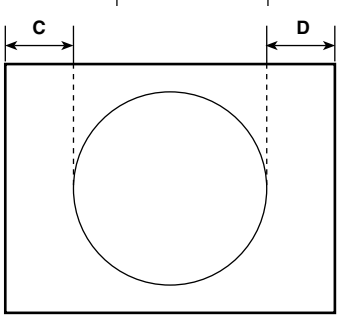
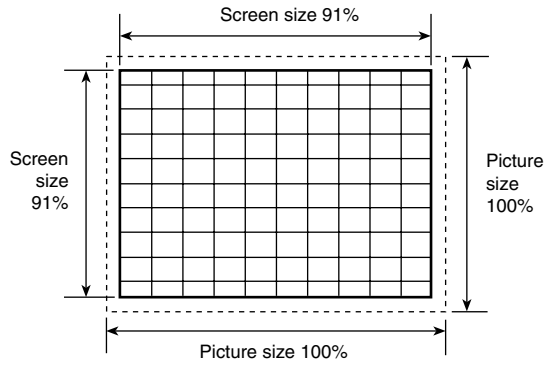
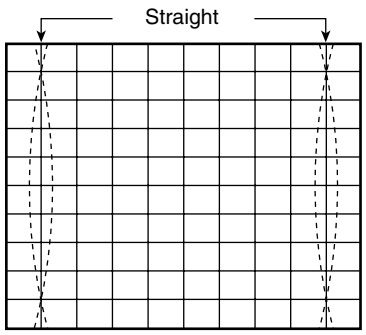
[fv : 60Hz mode]

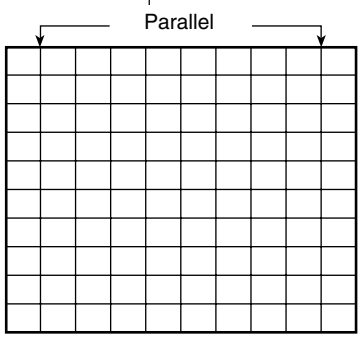
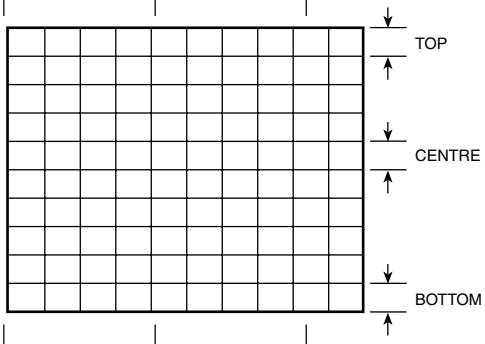
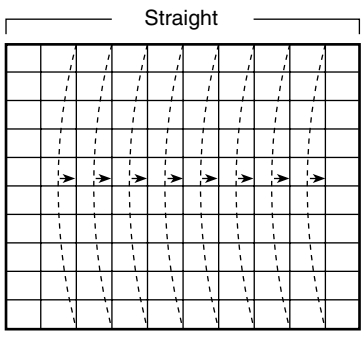
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of VER. SLOPE	**Signal generator** **Remote control unit**		**1. VER. SLOPE**	1. Receive a NTSC circle pattern signal of vertical frequency 60Hz. 2. Select **3. DEF** from the SERVICE MENU. 3. Select **1. VER. SLOPE** with the MENU ▽/△ key. 4. Set the initial setting value of **1. VER. SLOPE** with the MENU –/+ key. 5. Adjust **1. VER. SLOPE** to make "**A = B**" with the MENU –/+ key.
Adjustment of VER.POSITION	**Signal generator** **Remote control unit**		**3. VER. POSITION**	6. Select **3. VER. POSITION** with the MENU ▽/△ key. 7. Set the initial setting value of **3. VER. POSITION** with the MENU –/+ key. 8. Adjust **3. VER. POSITION** to make "**A = B**" with the MENU –/+ key.
Adjustment of V. ZOOM	**Signal generator** **Remote control unit**		**2. VER. HEIGHT** **13. V. ZOOM**	9. Receive a NTSC cross-hatch signal. 10. Select **2. VER. HEIGHT** with the MENU ▽/△ key. 11. Set the initial setting value of **2. VER. HEIGHT** with the MENU –/+ key. 12. Select **13. V. ZOOM** with the MENU ▽/△ key. 13. Set the initial setting value of **13. V. ZOOM** with the MENU –/+ key. 14. Adjust **13. V. ZOOM** and make the vertical screen size 91% of the picture size with the MENU –/+ key. (to be continued)





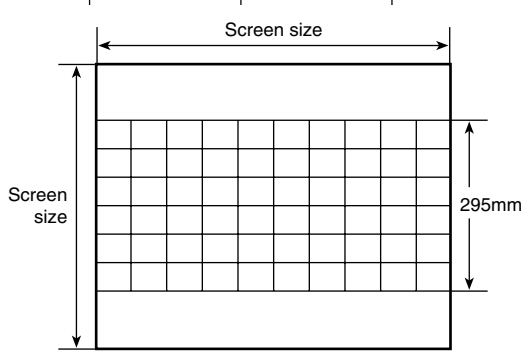


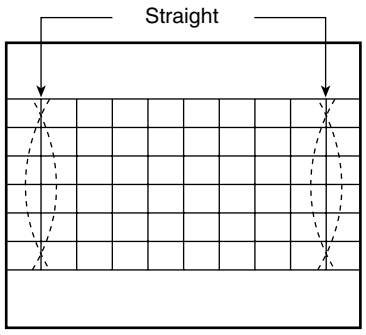
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of HOR. POSITION	**Signal generator** **Remote control unit** 		**5. HOR. POSITION**	15. Receive a NTSC circle pattern signal. 16. Select **5. HOR. POSITION** with the MENU ▽/△ key. 17. Set the initial setting value of **5. HOR. POSITION** with the MENU –/+ key. 18. Adjust **5. HOR. POSITION** to make “C=D” with the MENU –/+ key.
Adjustment of HOR. WIDTH	**Signal generator** **Remote control unit** 		**6. HOR. WIDTH**	19. Receive a NTSC cross-hatch signal. 20. Select **6. HOR. WIDTH** with the MENU ▽/△ key. 21. Set the initial setting value of **6. HOR. WIDTH** with the MENU –/+ key. 22. Adjust **6. HOR. WIDTH** and make the horizontal screen size 91% of the picture size with the MENU –/+ key.
Adjustment of EW-PIN	**Signal generator** **Remote control unit** 		**7. EW-PIN**	23. Select **7. EW-PIN** with the MENU ▽/△ key. 24. Set the initial setting value of **7. EW-PIN** with the MENU –/+ key. 25. Adjust **7. EW-PIN** so that the first vertical lines at the left and right edges on the screen are straight. (to be continued)

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of EW-TRAPEZ	**Signal generator** **Remote control unit**		**8. EW-TRAPEZ**	26. Select **8. EW-TRAPEZ** with the MENU ▽/△ key. 27. Set the initial setting value of **8. EW-TRAPEZ** with the MENU –/+ key. 28. Adjust **8. EW-TRAPEZ** so that the vertical lines at the left and right edges on the screen are in parallel.
Adjustment of VER. SCURVE	**Signal generator** **Remote control unit**		**4. VER. SCURVE**	29. Select **4. VER. SCURVE** with the MENU ▽/△ key. 30.Set the initial setting value of **4. VER. SCURVE** with the MENU –/+ key. 31. Adjust **4. VER. SCURVE** so that the spaces of each line on TOP, CENTRE and BOTTOM become uniform.
Adjustment of UP CORNER and DW CORNER	**Signal generator** **Remote control unit**		**9. UP CORNER** **10. DW CORNER**	32. Select **9. UP CORNER** with the MENU ▽/△ key. 33. Set the initial setting value of **9. UP CORNER** with the MENU –/+ key. 34. Sekect **10. DW CORNER** with the MENU ▽/△ key. 35. Set the initial setting value of **10. DW CORNER** with the MENU –/+ key. 36. Adjust **9. UP CORNER** and **10. DW CORNER** so that the vertical lines at the four corners on the screen are straight.
Adjustment of HOR. PARALL	**Signal generator** **Remote control unit**		**11. HOR. PARALL**	37. Select **11. HOR. PARALL** with the MENU ▽/△ key. 38. Set the initial setting value of **11. HOR. PARALL** with the MENU –/+ key. 39. Adjust **11. HOR. PARALL** to optimize the parallelogram distortion.
Adjustment of HOR. BOW	**Signal generator** **Remote control unit**		**12. HOR. BOW**	40. Select **12. HOR. BOW** with the MENU ▽/△ key. 41. Set the initial setting value of Select **12. HOR. BOW** with the MENU –/+ key. 42. Adjust **12. HOR. BOW** to optimize the horizontal arc distortion. 43. Press the DISPLAY key twice to return to the normal screen.

[COMPRESS (16 : 9), fv : 50Hz mode]

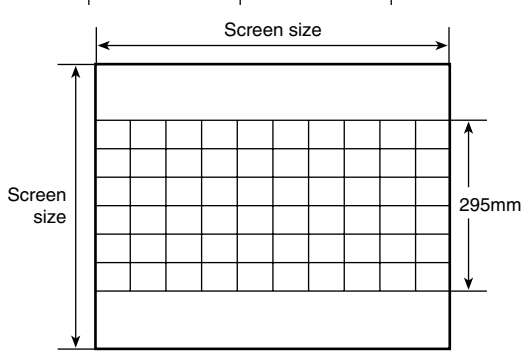
Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V. ZOOM and VER. HEIGHT	**Signal generator** **Remote control unit**		**13. V. ZOOM** **2. VER. HEIGHT**	1. Receive a PAL cross-hatch signal of vertical frequency 50Hz. 2. Select COMPRESS from the MENU and set COMPRESS to ON. 3. Select **3. DEF** from the SERVICE MENU. 4. Set the initial setting value of **13. V. ZOOM** with the MENU –/+ key. 5. Select **2. VER. HEIGHT** with the MENU ▽/△ key. 6. Set the initial setting value of **2. VER. HEIGHT** with the MENU –/+ key. 7. Adjust **2. VER. HEIGHT** to set the vertical amplitude of the image to 295mm.
Adjustment of EW-PIN	**Signal generator** **Remote control unit**		**7. EW-PIN**	8. Select **7. EW-PIN** with the MENU ▽/△ key. 9. Set the initial setting value of **7. EW-PIN** with the MENU –/+ key. 10. Adjust **7. EW-PIN** so tha the first vertical lines at the left and right edges on the screen are straight.
Adjustment of UP CORNER and DW CORNER	**Signal generator** **Remote control unit**		**9. UP CORNER** **10. DW CORNER**	11. Select **9. UP CORNER** with the MENU ▽/△ key. 12. Set the initial setting value of **9. UP CORNER** with the MENU –/+ key. 13. Select **10. DW CORNER** with the MENU ▽/△ key. 14. Set the initial setting value of **10. DW CORNER** with the MENU –/+ key. 15. Adjust **9. UP CORNER** and **10. DW CORNER** so that the vertical lines at the four corners on the screen are straight. 16. Press the DISPLAY key twice to return to the normal screen.

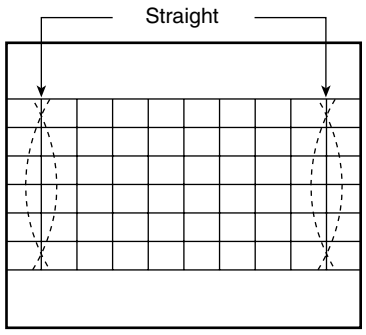




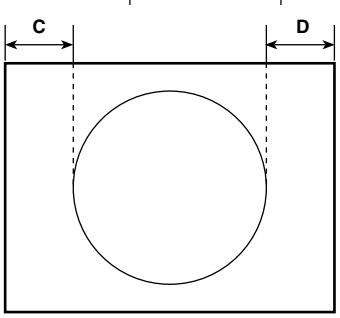
[COMPRESS (16 : 9), fv : 60Hz mode]

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V. ZOOM and VER. HEIGHT	**Signal generator** **Remote control unit**		**13. V. ZOOM** **2. VER. HEIGHT**	1. Receive a NTSC cross-hatch signal of vertical frequency 60Hz. 2. Select COMPRESS from the MENU and set COMPRESS to ON. 3. Select **3. DEF** from the SERVICE MENU. 4. Set the initial setting value of **13. V. ZOOM** with the MENU –/+ key. 5. Select **2. VER. HEIGHT** with the MENU ▽/△ key. 6. Set the initial setting value of **2. VER. HEIGHT** with the MENU –/+ key. 7. Adjust **2. VER. HEIGHT** to set the vertical amplitude of the image to 295mm.
Adjustment of EW-PIN	**Signal generator** **Remote control unit**		**7. EW-PIN**	8. Select **7. EW-PIN** with the MENU ▽/△ key. 9. Set the initial setting value of **7. EW-PIN** with the MENU –/+ key. 10. Adjust **7. EW-PIN** so tha the first vertical lines at the left and right edges on the screen are straight.
Adjustment of UP CORNER and DW CORNER	**Signal generator** **Remote control unit**		**9. UP CORNER** **10. DW CORNER**	11. Select **9. UP CORNER** with the MENU ▽/△ key. 12. Set the initial setting value of **9. UP CORNER** with the MENU –/+ key. 13. Select **10. DW CORNER** with the MENU ▽/△ key. 14. Set the initial setting value of **10. DW CORNER** with the MENU –/+ key. 15. Adjust **9. UP CORNER** and **10. DW CORNER** so that the vertical lines at the four corners on the screen are straight. 16. Press the DISPLAY key twice to return to the normal screen.





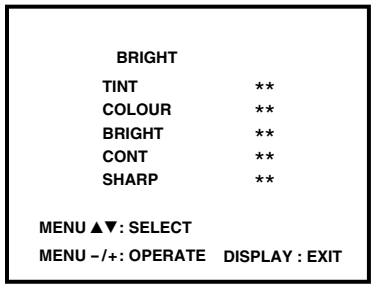
[COMPONENT, fv : 50/60Hz mode]

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of HOR. POSITION	**Signal generator** **Remote control unit** 		**5. HOR. POSITION**	1. Receive a PAL circle pattern signal to VIDEO-2 terminal. 2. Select VIDEO-2 SET from the MENU and set VIDEO-2 SET to COMPONENT. 3. Select **3. DEF** from the SERVICE MENU. 4. Select **5. HOR. POSITION** with the MENU ▽/△ key. 5. Set the initial setting value of **5. HOR. POSITION** with the MENU –/+ key. 6 Adjust **5. HOR POSITION** to make "**C=D**" with the MENU –/+ key. 7. Press the DISPLAY key twice to return to the normal screen.

VSM PRESET ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Setting of VSM PRESET	**Remote control unit**		**1. TINT** **2. COLOUR** **3. BRIGHT** **4. CONT** **5. SHARP**	1. Select **4. VSM PRESET** from the SERVICE MENU. 2. Select BRIGHT with the PICTURE MODE key. 3. Adjust the MENU ▽/△ key and MENU –/+ key to reset the set values of **1. TINT – 5. SHARP** to the values shown in the table. 4. Respectively select the VSM PRESET mode for SOFT and STANDARD, and make similar adjustment as in 3 above. 5. Press the DISPLAY key twice to return to the normal screen.

SUB MENU 4. VSM PRESET



[Setting Values for SUB MENU 4. VSM PRESET]

VSM preset mode / VSM Setting item	BRIGHT	STANDARD	SOFT
1. TINT SETTING VALUE	15	←	←
2. COLOUR SETTING VALUE	15	←	←
3. BRIGHT SETTING VALUE	15	←	←
4. CONT SETTING VALUE	30	15	11
5. SHARP SETTING VALUE	15	←	0

PRESET ADJUSTMENT

● Do not adjust 5. PRESET in the SERVICE MENU as it requires no adjustment.

[SUB MENU 5. PRESET]

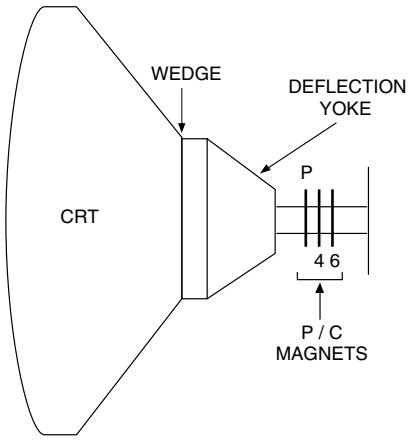
	Setting item	Variable range	Initial setting value
1	CB	0/1	0
2	ACL	0/1	0
3	MUS	0/1	0
4	MAT	0/1	0
5	FCO	0/1	0
6	BPS	0/1	0
7	IFLH	0/1	0
8	VID	0/1	0
9	STM	0/1	0
10	AFCW	0/1	0
11	VSW	0/1	0
12	FFI	0/1	0
13	AGC	00/10/01	10
14	CL	50 – 95	77
15	AKB	0/1	0
16	HBL	0/1	0
17	BKS	0/1	1
18	READ STATUS	—	—
19	VNR	00 – 63	25

PURITY AND CONVERGENCE ADJUSTMENTS

Note: The final adjustment of CONVERGENCE must be done after the FOCUS adjustment. (CONVERGENCE is changed by FOCUS adjustment.)
When makes difference by FOCUS adjustment, should be reconfirming PURITY adjustment.

PURITY ADJUSTMENT

1. Demagnetize CRT with the demagnetizer.
2. Loosen the retainer screw of the deflection yoke.
3. Remove the wedges.
4. Input a green raster signal from the signal generator, and turn the screen to green raster.
5. Move the deflection yoke backward.
6. Bring the long lug of the purity magnets on the short lug and position them horizontally. (Fig. 2)
7. Adjust the gap between two lugs so that the GREEN RASTER will come into the centre of the screen. (Fig. 3)
8. Move the deflection yoke forward, and fix the position of the deflection yoke so that the whole screen will become green.
9. Insert the wedge to the top side of the deflection yoke so that it will not move.
10. Input a crosshatch signal.
11. Verify that the screen is horizontal.
12. Input red and blue raster signals, and make sure that purity is properly adjusted.



• P/C MAGNETS

P : PURITY MAGNET
4 : 4 POLES (convergence magnets)
6 : 6 POLES (convergence magnets)

Fig. 1

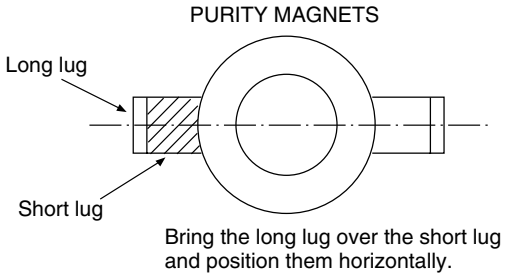


Fig. 2

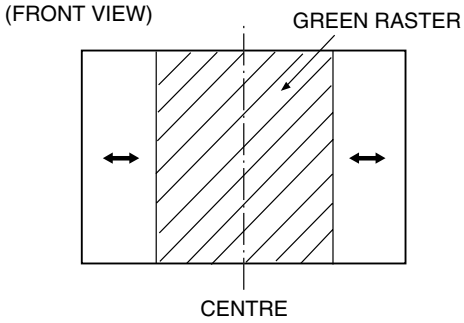


Fig. 3

STATIC CONVERGENCE ADJUSTMENT

1. Input a crosshatch signal.
2. Using 4-pole convergence magnets, overlap the red and blue lines in the centre of the screen (Fig. 4) and turn them to magenta (red/blue).
3. Using 6-pole convergence magnets, overlap the magenta(red/blue) and green lines in the centre of the screen and turn them to white.
4. Repeat 2 and 3 above, and make best convergence.

DYNAMIC CONVERGENCE ADJUSTMENT

1. Move the deflection yoke up and down and overlap the lines in the periphery. (Fig. 5)
2. Move the deflection yoke left to right and overlap the lines in the periphery. (Fig. 6)
3. Repeat 1 and 2 above, and make best convergence.

- After adjustment, fix the wedge at the original position.
  Fasten the retainer screw of the deflection yoke.
  Fix the 6 magnets with glue.

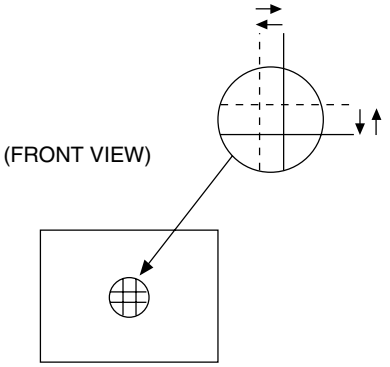


Fig. 4

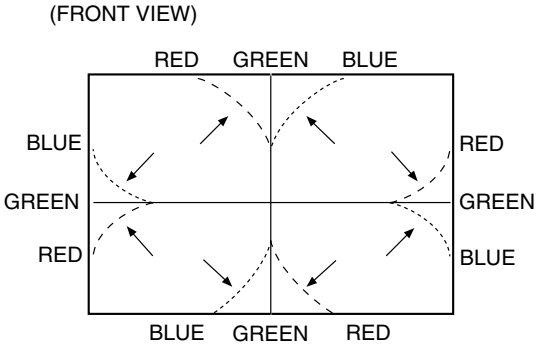


Fig. 5

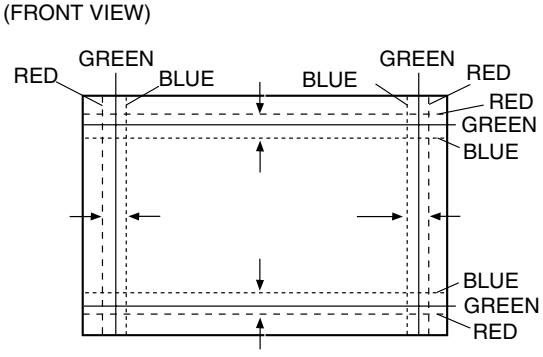


Fig. 6

SELF-CHECK FUNCTIONS

1. Outline

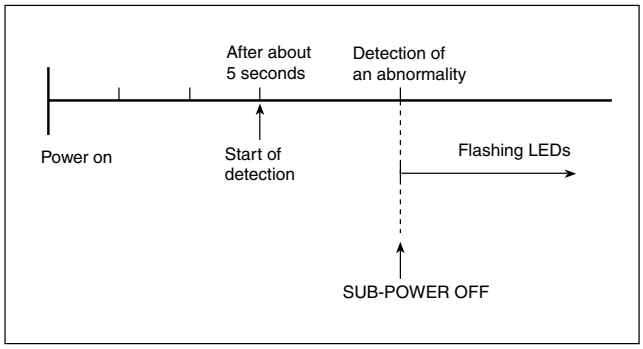
This model has self-check functions given below.When an abnormality has been detected,the SUB POWER is turned off and both ECO and ON TIMER LEDs flash to inform of the failure.An abnormality is detected by the signal input state of the control line connected to the microcomputer.

2. Self check items

Check item	Details of detection	Method of detection	State of abnormality
Over-current protection	An over-current on the low B line is detected.	The main microcomputer detects the possible abnormality at 30-msec.intervals and judges the results in every 16 time. Of the 16 times, if NG is detected more than 9 times, it is judged that there is an abnormality.	When an abnormality has been detected, the SUB-POWER is turned off. While the SUB-POWER is being turned off, the POWER key on the remote control unit is not operational until the power cord is taken out and put in again.
CRT NECK protection	Operation of CRT NECK protection circuit	DITTO	DITTO

3. Self check indicating function

When an abnormality has been detected at about 5 seconds after the power is turned on,the SUB POWER is turned off immediately and the LEDs flash.



[Indication by the LEDs]

Item	LEDs flashing intervals	Priority of detection
① Over-current protection	At 0.2-second intervals	1
② CRT NECK protection	At 1-second intervals	2

Note: In case of ① + ②, the item ① is indicated.

JVC
VICTOR COMPANY OF JAPAN, LIMITED
HOME AV NETWORK BUSINESS UNIT 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

AV29LXB-H #4
AV29LXBA-H #4

Printed in Japan
VP0108
SW

JVC

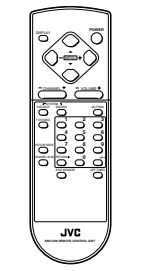
SCHEMATIC DIAGRAMS

COLOUR TELEVISION

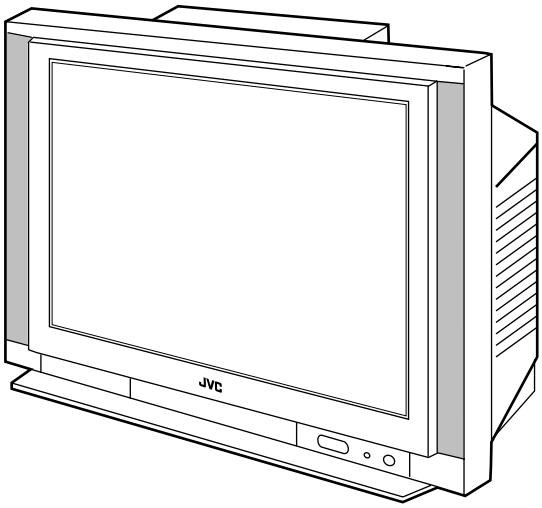
BASIC CHASSIS
CH

AV-29LXB
AV-29LXB(-A)

CD-ROM No. SML200109



RM-C357-1C



COPYRIGHT © 2001 VICTOR COMPANY OF JAPAN, LTD.

No. 51841
Aug. 2001

AV-29LXB
AV-29LXB-A
STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1) Input signal : Colour bar signal
(2) Setting positions of each knob/button and variable resistor : Original setting position when shipped
(3) Internal resistance of tester : DC 20kΩ/V
(4) Oscilloscope sweeping time : H ⇒ 20μS/div
: V ⇒ 5mS/div
: Others ⇒ Sweeping time is specified.
(5) Voltage values : All DC voltage values

∗Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

● In the PW board : R1209 → R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

● Resistance value

No unit	: [Ω]
k	: [kΩ]
M	: [MΩ]

● Rated allowable power

No indication	: 1/16 [W]
Others	: As specified

● Type

No indication	: Carbon resistor
OMR	: Oxide metal film resistor
MFR	: Metal film resistor
MPR	: Metal plate resistor
UNFR	: Non-Flammable resistor
FR	: Fusible resistor

∗Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2) Capacitors

● Capacitance value

1 or higher	: [pF]
less than 1	: [μF]

● Withstand voltage

No indication	: DC50[V]
AC indicated	: AC withstand voltage [V]
Others	: DC withstand voltage [V]

∗ Electrolytic Capacitors
47/50[Example] : Capacitance value [μF]/withstand voltage[V]

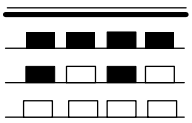
● Type

No indication	: Ceramic capacitor
MY	: Mylar capacitor
MM	: Metalized mylar capacitor
PP	: Polypropylene capacitor
MPP	: Metalized polypropylene capacitor
MF	: Metalized film capacitor
TF	: Thin film capacitor
BP	: Bipolar electrolytic capacitor
TAN	: Tantalum capacitor

(3) Coils

No unit	: [μH]
Others	: As specified

(4) Power Supply

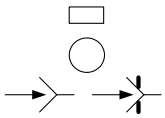

: B1
: B2(12V)
: 9V
: 5V

∗Respective voltage values are indicated

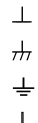
(5) Test point

: Test point
: Only test point display

(6) Connecting method


: Connector
: Wrapping or soldering
: Receptacle

(7) Ground symbol


: LIVE side ground
: ISOLATED(NEUTRAL) side ground
: EARTH ground
: DIGITAL ground

5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⏚) side GND. Therefore, care must be taken for the following points.

(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
(2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected , a fuse or any parts will be broken.

● **Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.**

Aug. 2001 No. 51841

CONTENTS

SEMICONDUCTOR SHAPES 2-2

BLOCK DIAGRAM 2-3

CIRCUIT DIAGRAMS

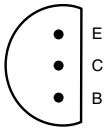
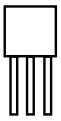
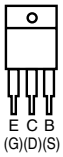
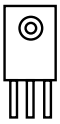
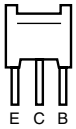
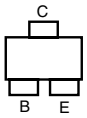
P.W.B. name \ Model	AV-29LXB AV-29LXB-A
MAIN PWB CIRCUIT DIAGRAM (1/2)	P2-5
MAIN PWB CIRCUIT DIAGRAM (2/2)	P2-7
CRT SOCKET PWB CIRCUIT DIAGRAM	P2-9
FRONT CONTROL PWB CIRCUIT DIAGRAM	P2-11

PATTERN DIAGRAMS

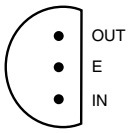
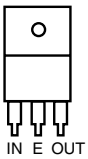
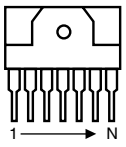
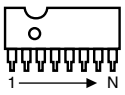
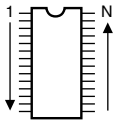
Patten name \ Model	AV-29LXB AV-29LXB-A
MAIN PWB PATTERN	P2-13
CRT SOCKET PWB PATTERN	P2-15
FRONT CONTROL PWB PATTERN	P2-16

SEMICONDUCTOR SHAPES

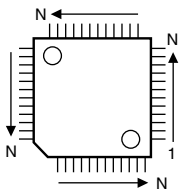
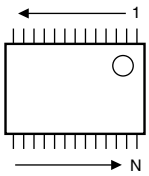
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

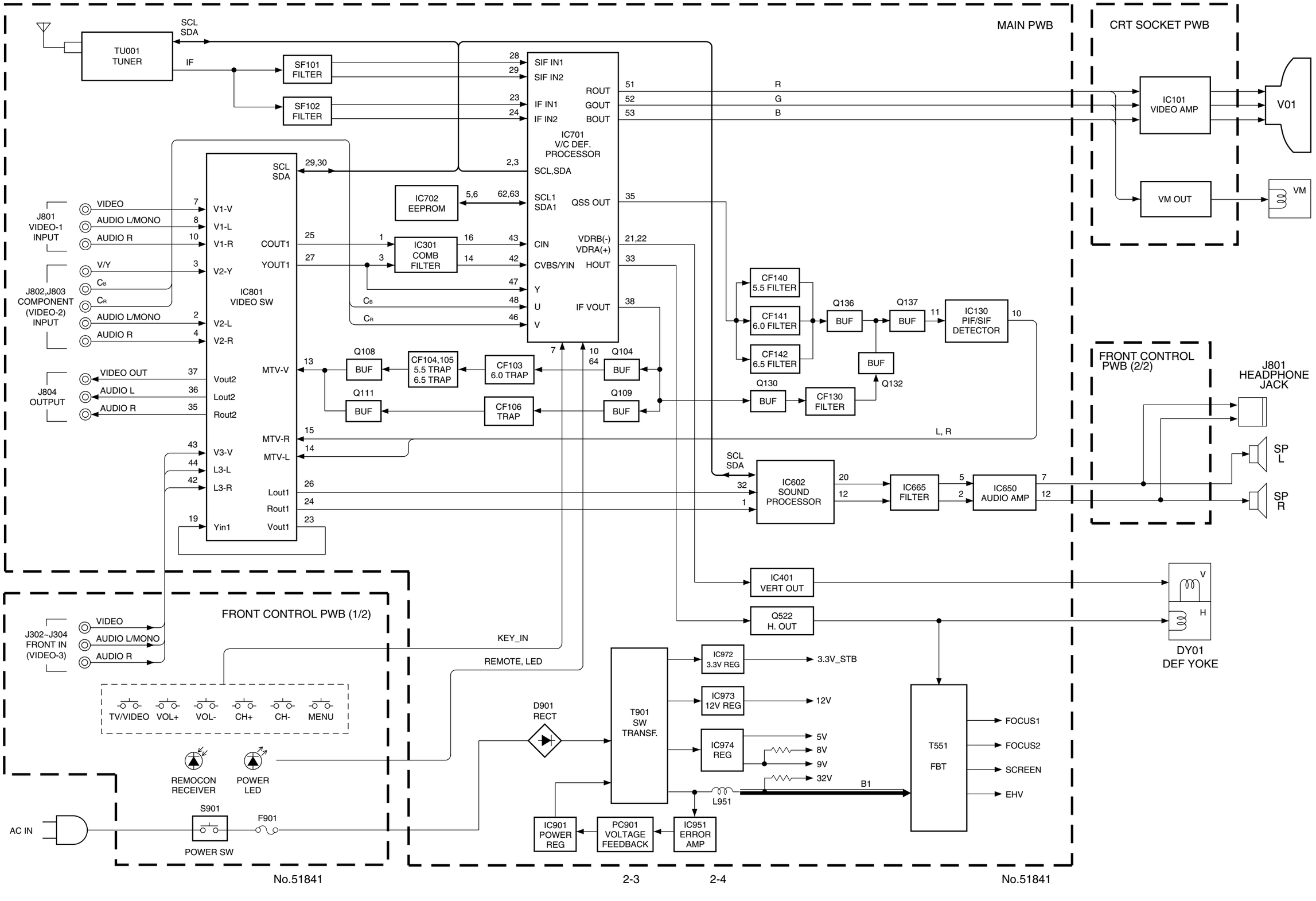
IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

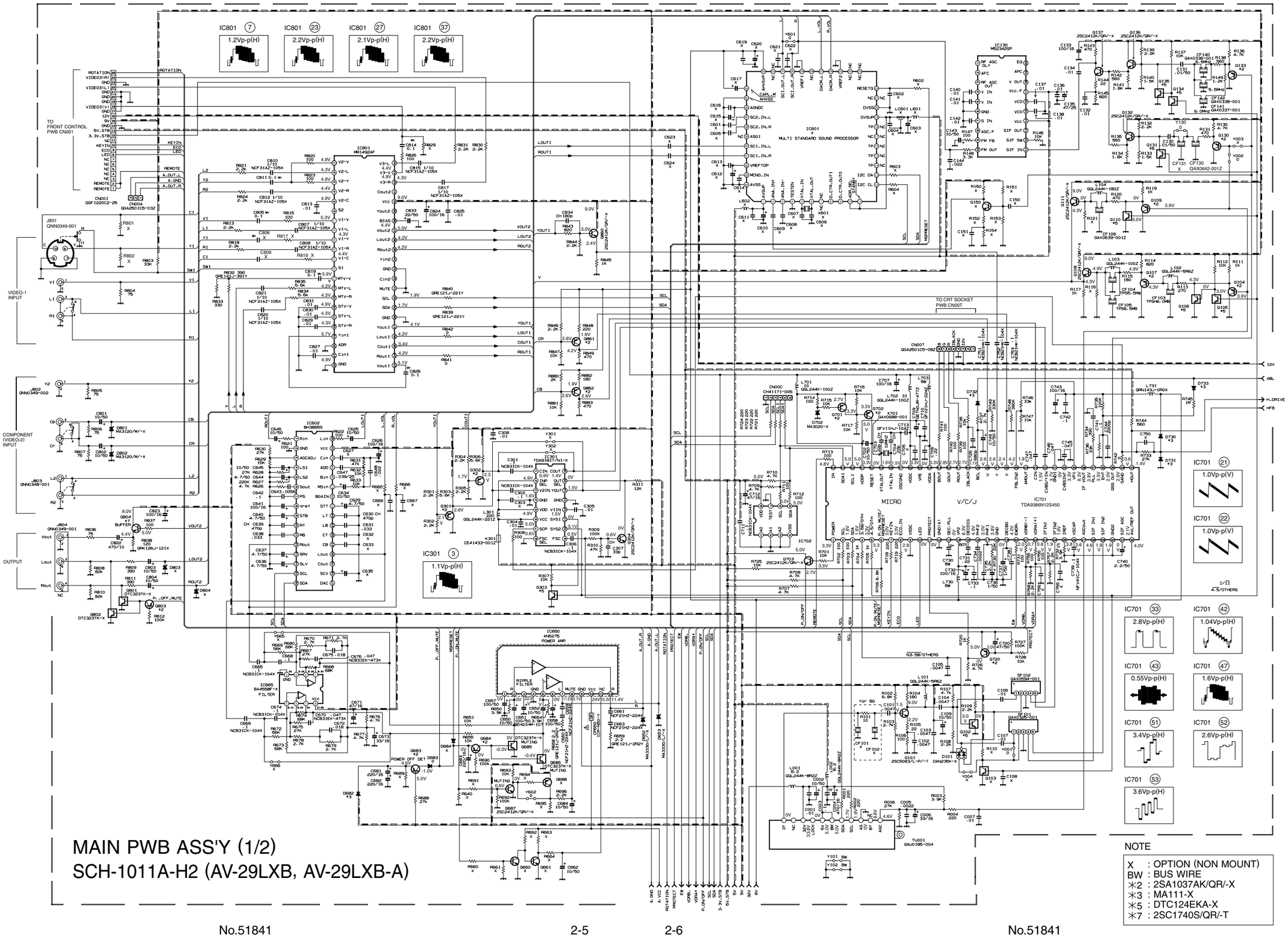
TOP VIEW		
		

BLOCK DIAGRAM



CIRCUIT DIAGRAMS

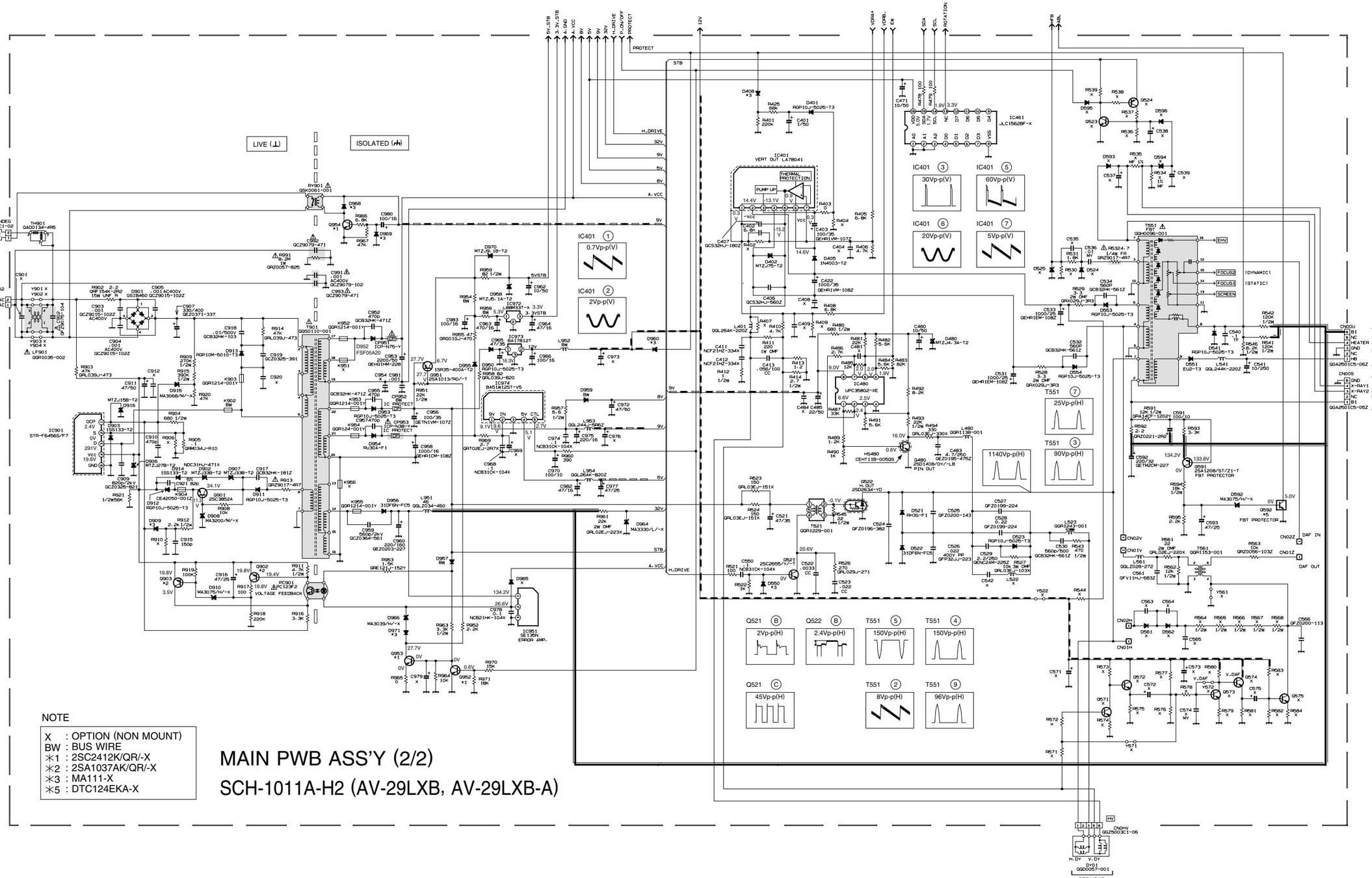
MAIN PWB CIRCUIT DIAGRAM (1/2)



NOTE

X : OPTION (NON MOUNT)
BW : BUS WIRE
✳2 : 2SA1037AK/QR/-X
✳3 : MA111-X
✳5 : DTC124EKA-X
✳7 : 2SC1740S/QR/-T

MAIN PWB CIRCUIT DIAGRAM (2/2)



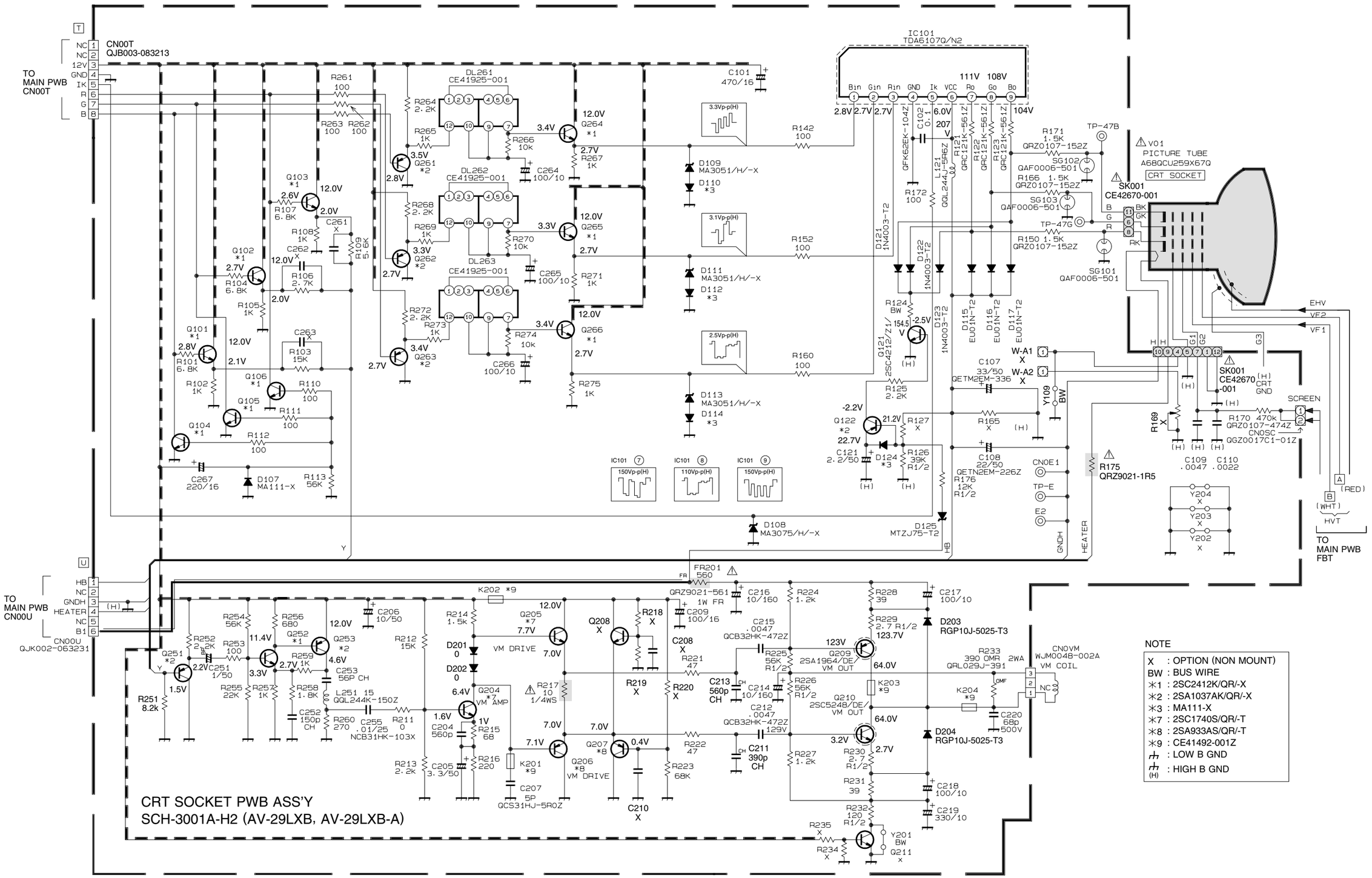
NOTE

X	: OPTION (NON MOUNT)
BW	: BUS WIRE
⁎1	: 2SC2412K/QR/-X
⁎2	: 2SA1037AK/QR/-X
⁎3	: MA111-X
⁎5	: DTC124EKA-X

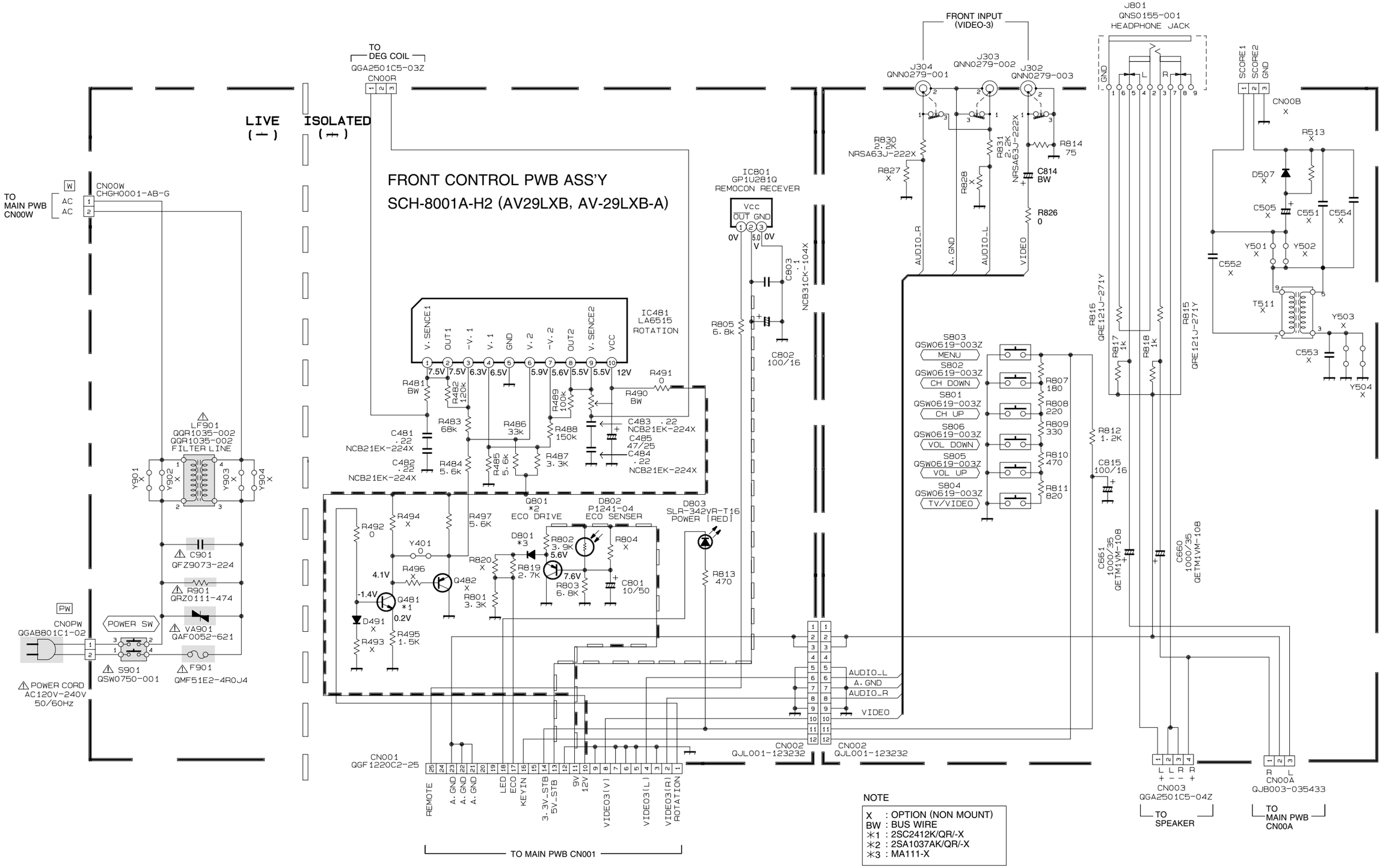
MAIN PWB ASS'Y (2/2)

SCH-1011A-H2 (AV-29LXB, AV-29LXB-A)

CRT SOCKET PWB CIRCUIT DIAGRAM

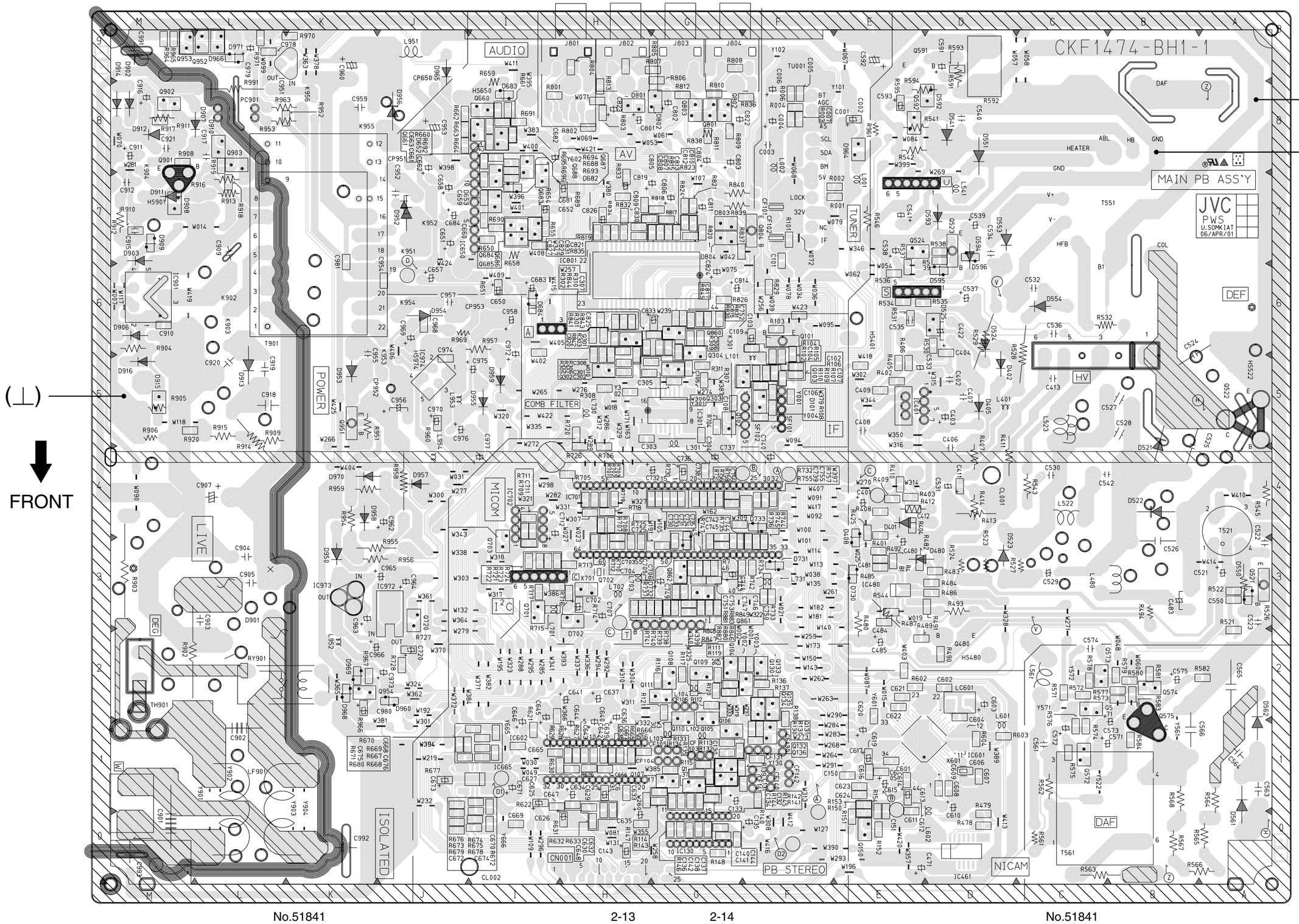


FRONT CONTROL PWB CIRCUIT DIAGRAM

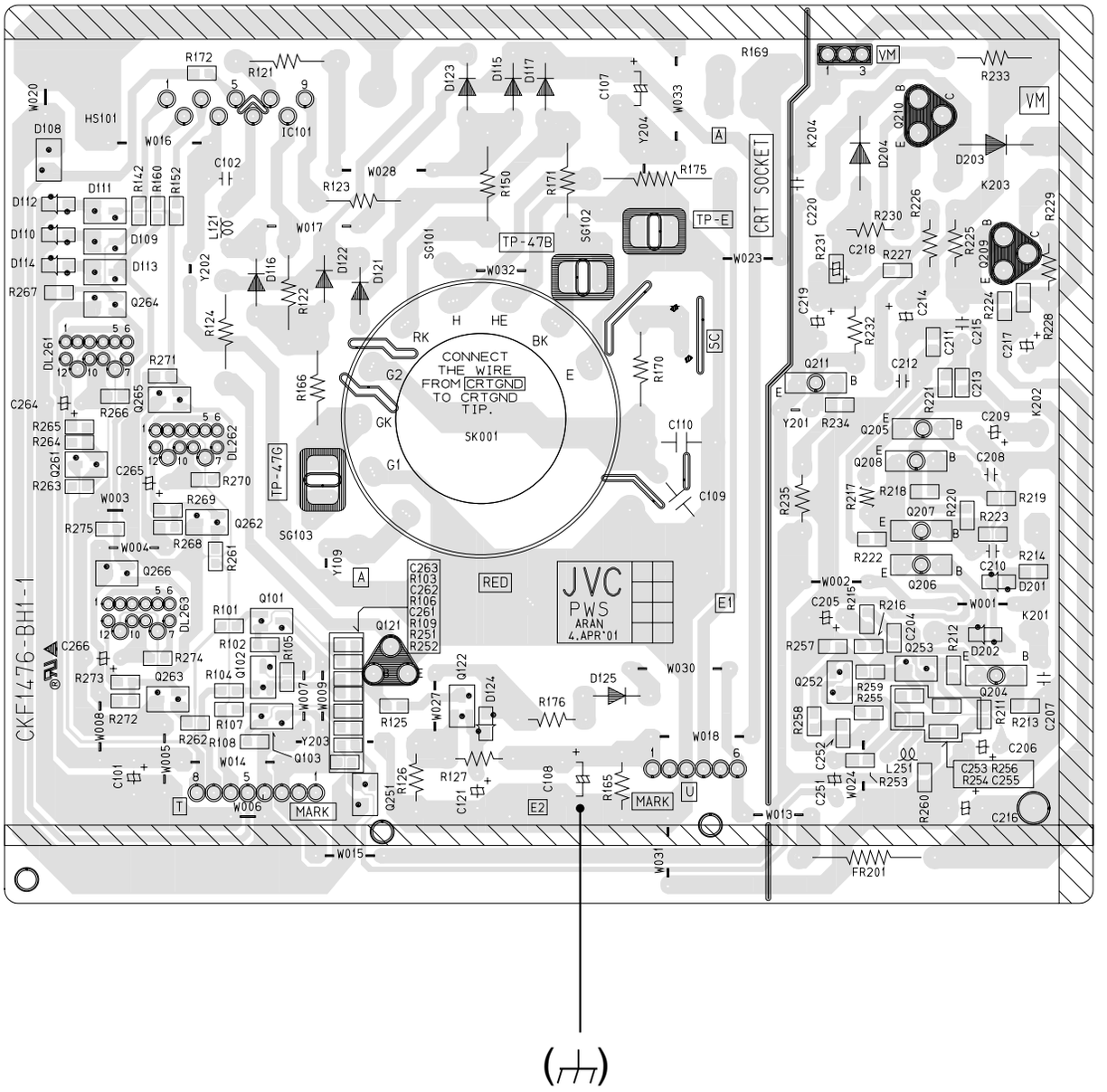


PATTERN DIAGRAMS

MAIN PWB PATTERN

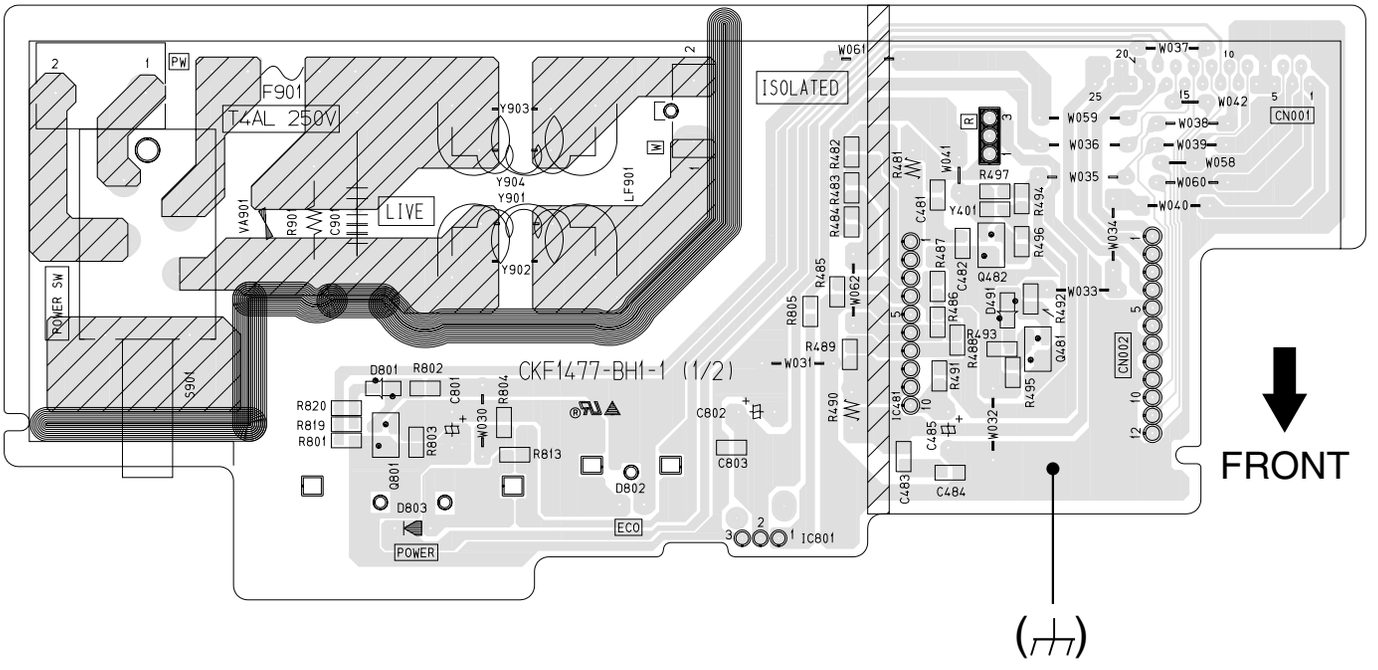

CKF1474-BH1-1
B1
(⏚)
(⊥)
FRONT
MAIN PB ASS'Y
JVC
PWS
U.SOMKIAT
06/APR/01
AUDIO
AV
TUNER
IF
COMB FILTER
MICOM
POWER
LIVE
DEG
ISOLATED
PB STEREO
NICAM
DAF
DEF
HV
HEATER
ABL
HB
GND
COL
HFB
V+
V-
T551
T521
T561
IC973
IC972
IC701
IC461
IC480
IC130
IC665
IC602
IC301
IC901
IC650
IC974
X701
CN001
CL002
TH901
LF901
RY901
HS480
HS522
SCL
SDA
BM
AS
BT
AGC
LOCK
32V
NC
IF
5V
R002
R001
W079
W346
W062
W054
W072
W078
W039
W034
W036
W095
W423
W256
W239
W042
W075
W107
W082
W068
W269
W084
W399
W542
W396
W401
W408
W409
W424
W421
W053
W061
W069
W071
W383
W400
W398
W411
W405
W402
W265
W276
W422
W335
W320
W266
W272
W118
W014
W107
W281
W070
W080
W404
W031
W277
W300
W343
W338
W303
W361
W132
W364
W279
W317
W318
W386
W370
W324
W362
W192
W301
W381
W394
W219
W232
W371
W372
W382
W384
W195
W323
W288
W295
W285
W341
W393
W336
W294
W292
W310
W304
W311
W332
W263
W290
W284
W283
W268
W264
W291
W150
W163
W262
W259
W173
W140
W181
W182
W261
W135
W113
W114
W101
W100
W092
W091
W407
W417
W038
W731
W730
W327
W162
W307
W105
W027
W023
W298
W282
W331
W127
W390
W293
W196
W313
W412
W414
W410
W487
W403
W328
W271
W019
W021
W022
W015
W018
W060
W048
W087
W389
W350
W316
W314
W270
W302
W344
W418
W401
W402
W408
W409
W534
W535
W536
W537
W538
W539
W541
W543
W544
W545
W546
W547
W548
W549
W550
W551
W552
W553
W554
W555
W556
W557
W558
W559
W560
W561
W562
W563
W564
W565
W566
W567
W568
W569
W570
W571
W572
W573
W574
W575
W576
W577
W578
W579
W580
W581
W582

CRT SOCKET PWB PATTERN

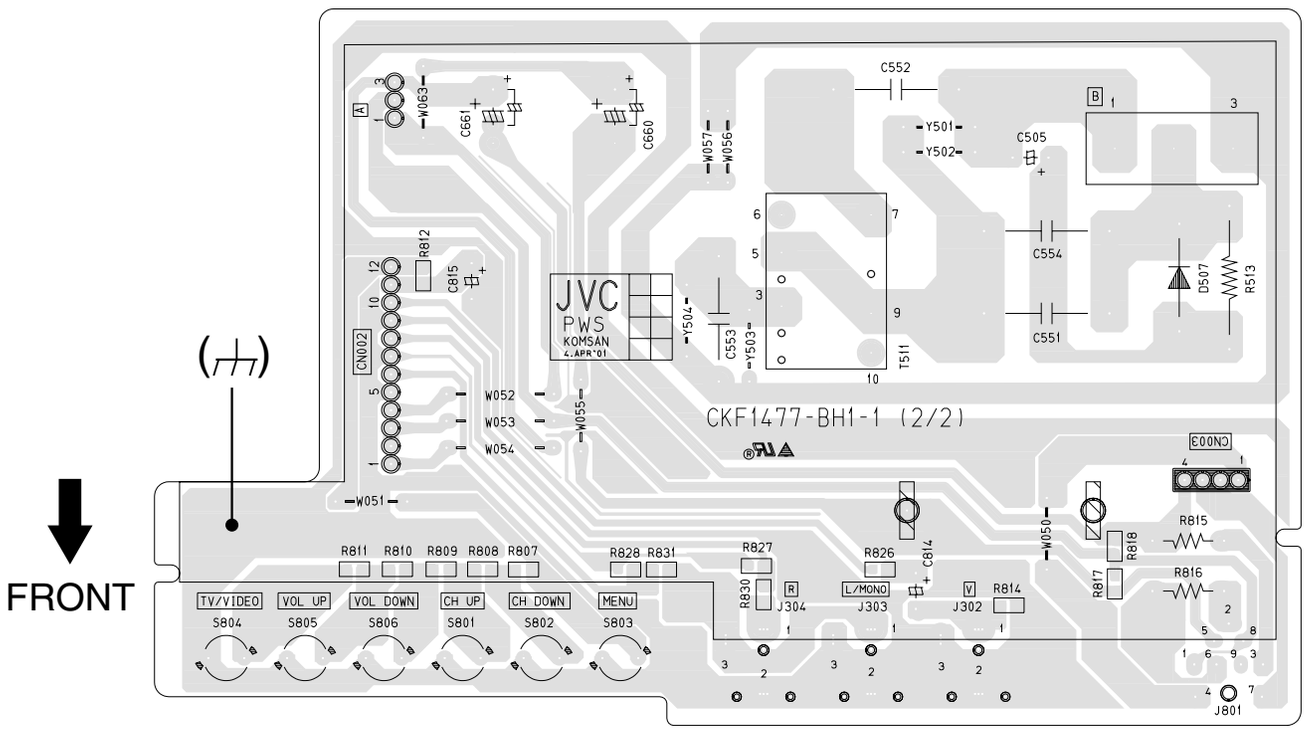


FRONT CONTROL PWB PATTERN

– FRONT CONTROL (1/2) –



– FRONT CONTROL (2/2) –



JVC
VICTOR COMPANY OF JAPAN, LIMITED
HOME AV NETWORK BUSINESS UNIT 12, 3-chome, Moriya-cho, kanagawa-ku, Yokohama, kanagawa-prefecture, 221-8528, Japan

AV29LXB-H #4
AV29LXBA-H #4

Printed in Japan
VP0108
SW

PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied .
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

RESISTORS									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% 0%

CONTENTS

USING P.W. BOARD & REMOTE CONTROL UNIT 39
EXPLODED VIEW PARTS LIST-Ⅰ 39
EXPLODED VIEW-Ⅰ 39
EXPLODED VIEW PARTS LIST-Ⅱ 40
EXPLODED VIEW-Ⅱ 41
EXPLODED VIEW PARTS LIST-Ⅲ 42
EXPLODED VIEW-Ⅲ 42

PRINTED WIRING BOARD PARTS LIST (AV-29LXB, AV-29LXB-A)
MAIN PW BOARD ASS'Y 43
CRT SOCKET PW BOARD ASS'Y 47
FRONT CONTROL PW BOARD ASS'Y 48
REMOTE CONTROL UNIT PARTS LIST (RM-C357-1C) 48

PACKING / PACKING PARTS LIST 49

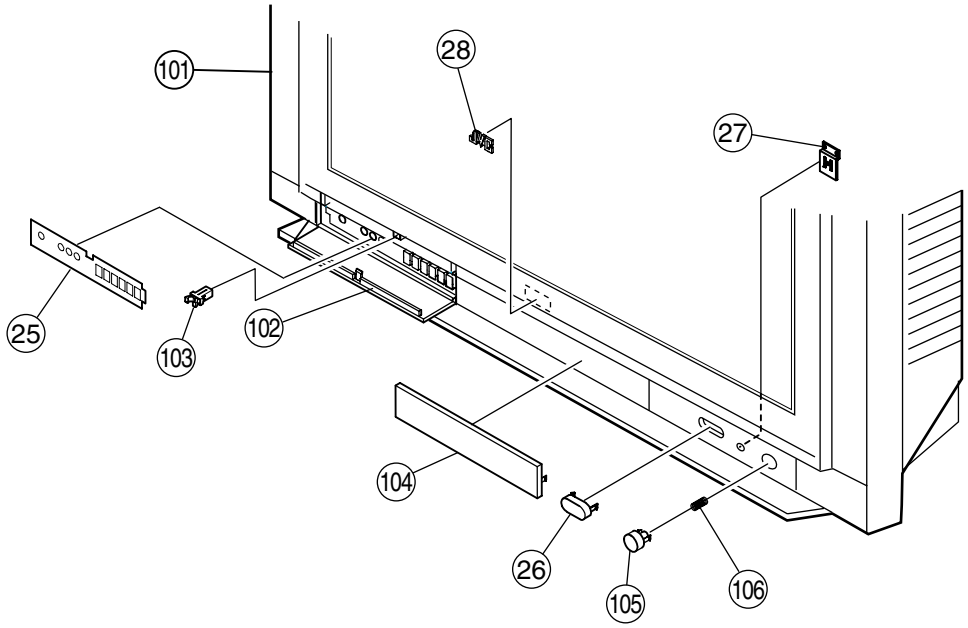
USING P.W. BOARD & REMOTE CONTROL UNIT

P.W.B ASS'Y \ Model	AV-29LXB	AV-29LXB-A
MAIN PWB	SCH-1011A-H2	←
CRT SOCKET PWB	SCH-3001A-H2	←
FRONT CONTROL PWB	SCH-8001A-H2	←
REMOTE CONTROL UNIT	RM-C357-1C	←

EXPLODED VIEW PARTS LIST-I

⚠ Ref.No.	Part No.	Part Name	Description	Local
25	LC20778-001A-H	OPERATION SHEET		
26	LC31474-001A-H	CONTROL WINDOW		
27	LC31476-001B-H	LED LENS		
28	LC41037-001A	JVC MARK		
101	LC11193-003B-H	FRONT CABINET ASS'Y	Inc. No. 102-106	
102	LC20776-003A-H	DOOR		
103	CM48229-00A-C	DOOR LATCH		
104	LC20777-001D-H	CENTRE PLATE		
105	LC31475-001B-H	POWER KNOB		
106	CM35235-003-H	SPRING		

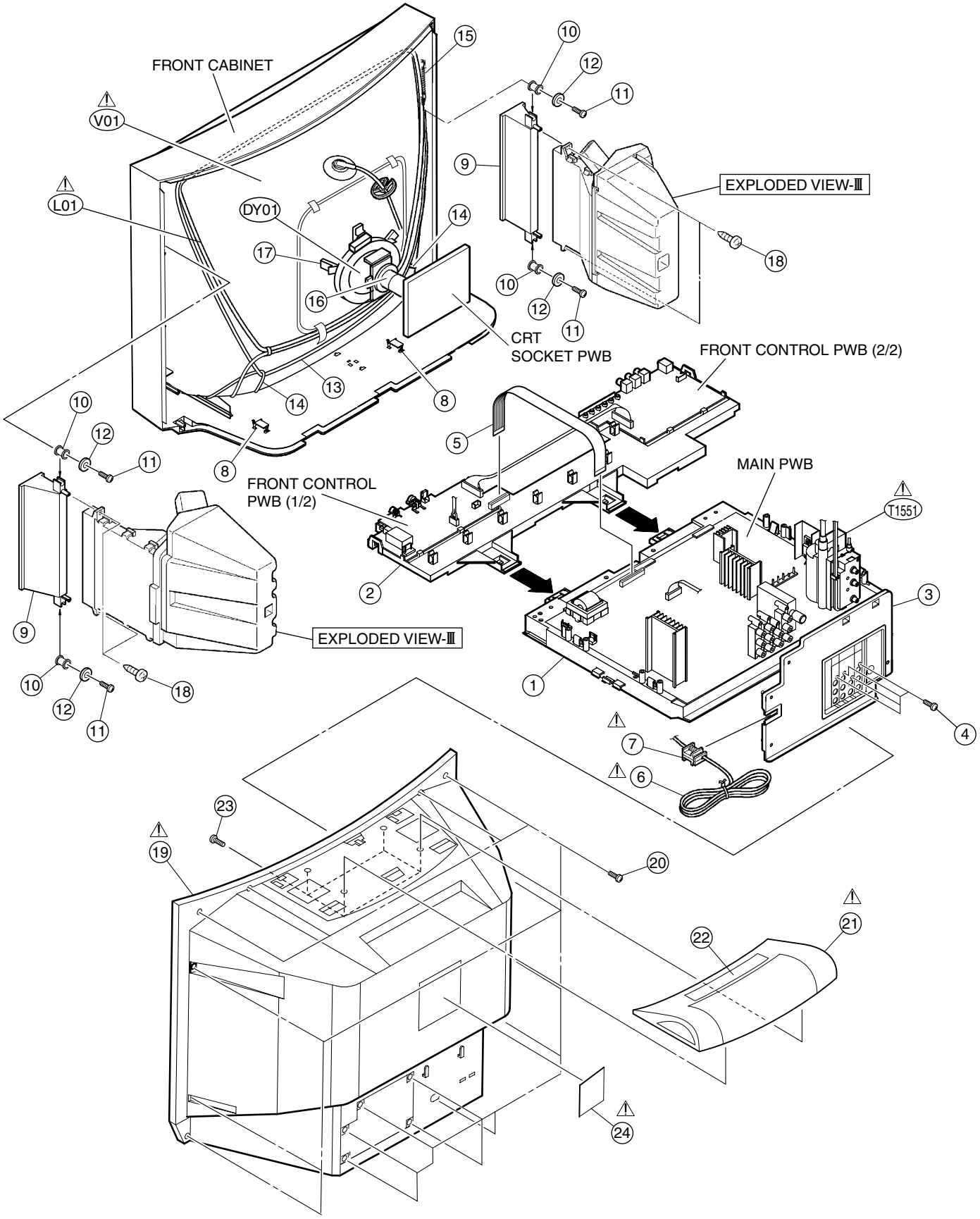
EXPLODED VIEW-I



EXPLODED VIEW PARTS LIST-Ⅱ

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	V01	A68QCU259X	PICTURE TUBE		
⚠	L01	QQW0113-001	DEG COIL		
	DY01	QQD0057-001	DEF YOKE		
⚠	T1551	QQH0096-001	FBT		
	1	LC11061-001A-H	CHASSIS BASE		
	2	LC11062-001C-H	CONTROL BASE		
	3	LC11064-002A-H	AV TERMINAL BOARD		
	4	QYSBSF3012M	TAPPING SCREW	(X4)	
	5	CHFD125-18BD-N	FFC WIRE		
⚠	6	QMP40D0-200J5	POWER CORD	[AV-29LXB]	
⚠	6	QMPR010-200-E2	POWER CORD	[AV-29LXB-A]	
⚠	7	CM23167-A01-H	POWER CORD CLAMP		
	8	LC30103-001B-H	CHASSIS ADAPTER	(X2)	
	9	LC10767-001A-H	DOME ADAPTER	(X2)	
	10	LC40226-003A-H	SPACER	(X4)	
	11	LC40317-002A-H	TAPPING SCREW	(X4)	
	12	LC40573-002A-H	WASHER	(X4)	
	13	WJY0018-001A	BRAIDED ASS'Y		
	14	CHGB0017-0C	BRAIDED ASS'Y (SUB)	(X2)	
	15	A48457-3-H	SPRING		
	16	CE42568-00A	PC MAGNET		
	17	CE40764-00A	WEDGE ASS'Y	(X4)	
	18	QYSBSBG4016Z	TAPPING SCREW	(X4)	
⚠	19	LC10763-005A-HH	REAR COVER		
	20	QYSBSFG4016Z	TAPPING SCREW	(X16)	
⚠	21	LC10770-002A-H	TOP GRILLE		
	22	LC31074-002A-H	TOP PLATE		
	23	QYSBSFG4016Z	TAPPING SCREW	(X4)	
⚠	24	LC20377-010B-H	RATING LABEL	[AV-29LXB]	
⚠	24	LC20413-002B-H	RATING LABEL	[AV-29LXB-A]	

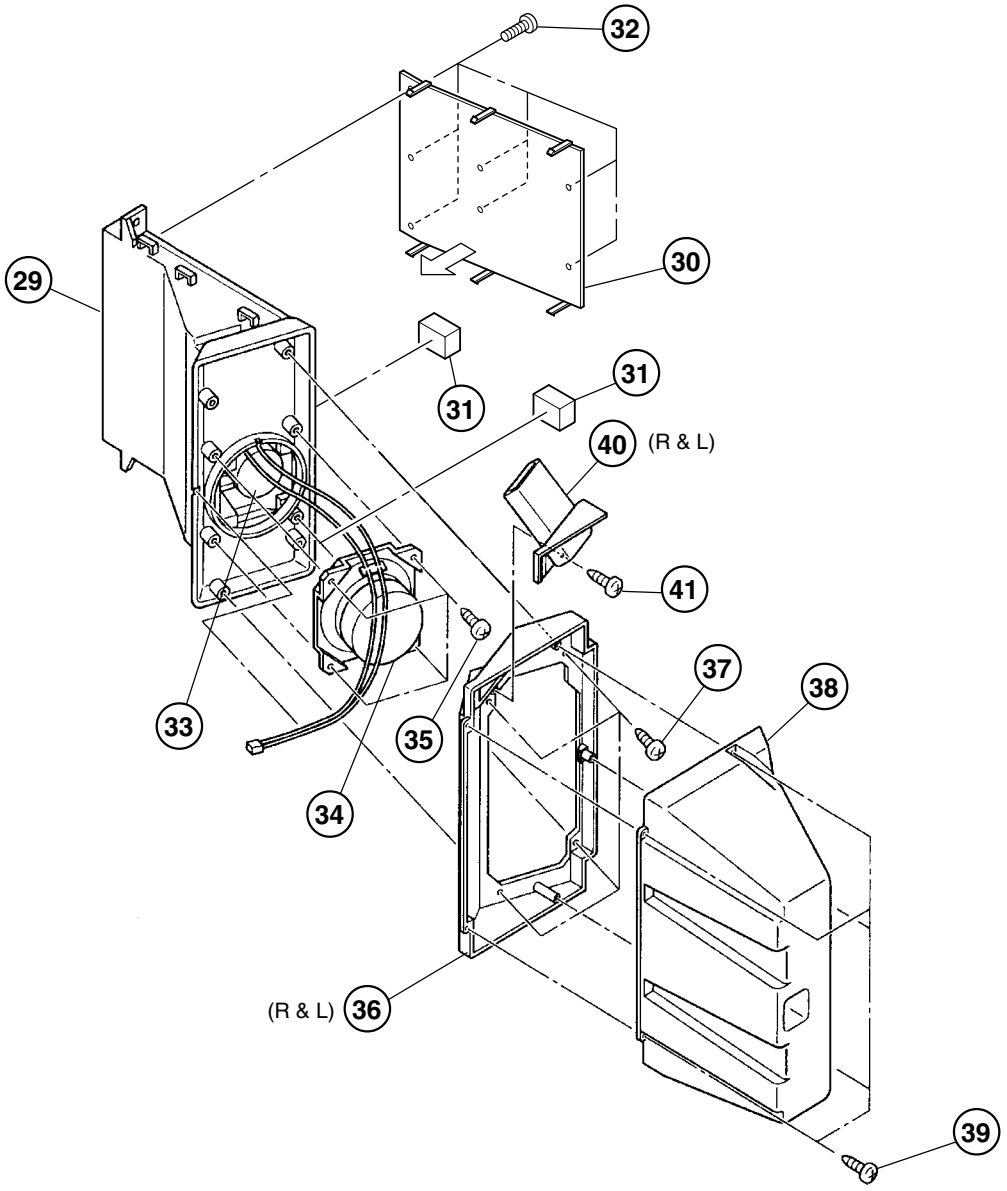
EXPLODED VIEW-Ⅱ



EXPLODED VIEW PARTS LIST-Ⅲ

⚠ Ref.No.	Part No.	Part Name	Description	Local
29	LC10050-001A-H	HORN	(X2)	
30	LC10051-001A-H	DOME COVER	(X2)	
31	CM47846-005-H	DOME ABSORBER	(X4)	
32	QYSBSFG4016Z	TAPPING SCREW	(X14)	
33	CEBSS03K-01KJ2	SPEAKER	(X2) SP03, SP04	
34	CEBSF10P-07KJ6	SPEAKER	(X2) SP01, SP02	
35	QYSBSFG4016Z	TAPPING SCREW	(X8)	
36	CM12945-B01-H	DOME RING(R)		
36	CM12945-B02-H	DOME RING(L)		
37	QYSBSFG4016Z	TAPPING SCREW	(X8)	
38	CM12946-B01-H	DOME BOX	(X2)	
39	QYSGSFG4016Z	TAPPING SCREW	(X10)	
40	CM23139-A01-H	REFLECTOR(R)		
40	CM23139-B02-H	REFLECTOR(L)		
41	QYSBSFG4016Z	TAPPING SCREW	(X2)	

EXPLODED VIEW-Ⅲ



PRINTED WIRING BOARD PARTS LIST (AV-29LXB,AV-29LXB-A)

MAIN PW BOARD ASS'Y(SCH-1011A-H2)

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description		Local
	R1001-02	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1003	NRSA63J-392X	MG R	3.9kΩ	1/16W	J
	R1004	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1006	NRSA63J-273X	MG R	27kΩ	1/16W	J
	R1101	NRSA63J-100X	MG R	10Ω	1/16W	J
	R1102	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R1103	NRSA63J-272X	MG R	2.7kΩ	1/16W	J
	R1104	NRSA63J-181X	MG R	180Ω	1/16W	J
	R1105	NRSA63J-220X	MG R	22Ω	1/16W	J
	R1106	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1107	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1108-09	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1111	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1112	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1113	NRSA63J-271X	MG R	270Ω	1/16W	J
	R1114	NRSA63J-821X	MG R	820Ω	1/16W	J
	R1115	NRSA63J-181X	MG R	180Ω	1/16W	J
	R1117	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1119	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1120	NRSA63J-471X	MG R	470Ω	1/16W	J
	R1130	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1131	NRSA63J-471X	MG R	470Ω	1/16W	J
	R1132	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1133	NRSA63J-152X	MG R	1.5kΩ	1/16W	J
	R1134	NRSA63J-182X	MG R	1.8kΩ	1/16W	J
	R1135	NRSA63J-561X	MG R	560Ω	1/16W	J
	R1136	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1137	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1138	NRSA63J-561X	MG R	560Ω	1/16W	J
	R1139	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1140	NRSA63J-152X	MG R	1.5kΩ	1/16W	J
	R1141	NRSA63J-182X	MG R	1.8kΩ	1/16W	J
	R1142	NRSA63J-561X	MG R	560Ω	1/16W	J
	R1143	NRSA63J-471X	MG R	470Ω	1/16W	J
	R1144	NRSA63J-220X	MG R	22Ω	1/16W	J
	R1145	NRSA63J-821X	MG R	820Ω	1/16W	J
	R1146	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1147	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1148	NRSA63J-332X	MG R	3.3kΩ	1/16W	J
	R1149	QRE141J-222Y	C R	2.2kΩ	1/4W	J
	R1301-02	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1303	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R1304-05	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1306	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R1307	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1308	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1309	NRSA63J-104X	MG R	100kΩ	1/16W	J
	R1310	NRSA63J-473X	MG R	47kΩ	1/16W	J
	R1311	NRSA63J-123X	MG R	12kΩ	1/16W	J
	R1401	NRSA63J-224X	MG R	220kΩ	1/16W	J
	R1403	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R1405	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R1406	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1408	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R1410	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1411	QRG01GJ-221	OM R	220Ω	1W	J
	R1412	QRE121J-1R0Y	C R	1.0Ω	1/2W	J
	R1413	QRX01GJ-1R2	MF R	1.2Ω	1W	J
	R1414	QRE121J-2R7Y	C R	2.7Ω	1/2W	J
	R1425	NRSA63J-683X	MG R	68kΩ	1/16W	J
	R1478-79	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1480	QRE121J-681Y	C R	680Ω	1/2W	J
	R1481	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R1482	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R1483	NRSA63J-823X	MG R	82kΩ	1/16W	J
	R1484	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R1485	NRSA63J-123X	MG R	12kΩ	1/16W	J
	R1486	NRSA63J-272X	MG R	2.7kΩ	1/16W	J
	R1487	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R1489	NRSA63J-122X	MG R	1.2kΩ	1/16W	J
	R1490	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1491	NRSA63J-562X	MG R	5.6kΩ	1/16W	J

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description		Local
	R1492	NRSA63J-822X	MG R	8.2kΩ	1/16W	J
	R1493	QRE121J-223Y	C R	22kΩ	1/2W	J
	R1494	QRL03EJ-560X	OM R	56Ω	3W	J
	R1494	QRL03EJ-330X	OM R	33Ω	3W	J
	R1521	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1522	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1523-24	QRL03EJ-151X	OM R	150Ω	3W	J
	R1526	QRL029J-271	OM R	270Ω	2W	J
	R1527	QRL03EJ-103X	OM R	10kΩ	3W	J
	R1528	QRX029J-3R3	MF R	3.3Ω	2W	J
	R1529	QRX029J-3R3	MF R	3.3Ω	2W	J
	R1531	NRSA63J-182X	MG R	1.8kΩ	1/16W	J
⚠	R1532	QRZ9017-4R7	F R	4.7Ω	1/4W	J
	R1541-42	QRE121J-124Y	C R	120kΩ	1/2W	J
	R1543	QRE121J-471Y	C R	470Ω	1/2W	J
	R1545	QRE121J-220Y	C R	22Ω	1/2W	J
	R1546	QRE121J-822Y	C R	8.2kΩ	1/2W	J
	R1561	QRL02EJ-220X	OM R	22Ω	2W	J
	R1562	QRE121J-123Y	C R	12kΩ	1/2W	J
	R1563	QRZ0056-103Z	COMP.R	10kΩ	1/2W	K
	R1591	QRA14CF-1202Y	MF R	12kΩ	1/4W	F
	R1592	QRZ0221-2R2	UNF R	2.2Ω		
	R1593	NRSA02F-332X	MG R	3.3kΩ	1/10W	F
	R1594	QRE121J-183Y	C R	18kΩ	1/2W	J
	R1595	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1621-22	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1626	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1627	NRSA63J-224X	MG R	220kΩ	1/16W	J
	R1628	NRSA63J-104X	MG R	100kΩ	1/16W	J
	R1629	NRSA63J-153X	MG R	15kΩ	1/16W	J
	R1630	NRSA63J-273X	MG R	27kΩ	1/16W	J
	R1631	NRSA63J-473X	MG R	47kΩ	1/16W	J
	R1632-33	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1651	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1652	QRE141J-822Y	C R	8.2kΩ	1/4W	J
	R1653	QRE141J-182Y	C R	1.8kΩ	1/4W	J
	R1655	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1656	QRE141J-822Y	C R	8.2kΩ	1/4W	J
	R1657	QRE141J-182Y	C R	1.8kΩ	1/4W	J
	R1658-59	QRE121J-2R2Y	C R	2.2Ω	1/2W	J
	R1660	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R1661	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1667	NRSA63J-273X	MG R	27kΩ	1/16W	J
	R1668	NRSA63J-683X	MG R	68kΩ	1/16W	J
	R1669	NRSA63J-563X	MG R	56kΩ	1/16W	J
	R1670-71	NRSA63J-272X	MG R	2.7kΩ	1/16W	J
	R1672	NRSA63J-563X	MG R	56kΩ	1/16W	J
	R1673-74	NRSA63J-683X	MG R	68kΩ	1/16W	J
	R1675	NRSA63J-273X	MG R	27kΩ	1/16W	J
	R1676-77	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1678-79	NRSA63J-272X	MG R	2.7kΩ	1/16W	J
	R1680	NRSA63J-683X	MG R	68kΩ	1/16W	J
	R1688	NRSA63J-273X	MG R	27kΩ	1/16W	J
	R1690	NRSA63J-104X	MG R	100kΩ	1/16W	J
	R1692	NRSA63J-104X	MG R	100kΩ	1/16W	J
	R1693	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1696	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R1701	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1702-03	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1704-05	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1706	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R1707-10	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1711-14	NRSA63J-101X	MG R	100Ω	1/16W	J
	R1715-17	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1718-19	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1720	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1721-24	NRSA63J-221X	MG R	220Ω	1/16W	J
	R1725	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1726	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R1727	NRSA63J-104X	MG R	100kΩ	1/16W	J
	R1728	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R1730	NRSA63J-223X	MG R	22kΩ	1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R1731	NRSA63J-101X	MG R	100Ω 1/16W J	
	R1732	NRSA02F-393X	MF R	39kΩ 1/10W F	
	R1733	NRSA63J-273X	MG R	27kΩ 1/16W J	
	R1734	NRSA63J-391X	MG R	390Ω 1/16W J	
	R1735	NRSA63J-104X	MG R	100kΩ 1/16W J	
	R1736	NRSA63J-333X	MG R	33kΩ 1/16W J	
	R1737	NRSA63J-272X	MG R	2.7kΩ 1/16W J	
	R1738	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R1739-41	NRSA63J-101X	MG R	100Ω 1/16W J	
	R1742	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R1744	NRSA63J-561X	MG R	560Ω 1/16W J	
	R1745	NRSA63J-105X	MG R	1MΩ 1/16W J	
	R1746	NRSA63J-333X	MG R	33kΩ 1/16W J	
	R1747	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R1748	QRE141J-394Y	C R	390kΩ 1/4W J	
	R1749	QRE141J-334Y	C R	330kΩ 1/4W J	
	R1755-56	NRSA63J-101X	MG R	100Ω 1/16W J	
	R1757-58	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R1803	NRSA63J-333X	MG R	33kΩ 1/16W J	
	R1804-07	NRSA63J-750X	MG R	75Ω 1/16W J	
	R1808	NRSA63J-823X	MG R	82kΩ 1/16W J	
	R1809	NRSA63J-391X	MG R	390Ω 1/16W J	
	R1810	NRSA63J-823X	MG R	82kΩ 1/16W J	
	R1811	NRSA63J-391X	MG R	390Ω 1/16W J	
	R1812	NRSA63J-104X	MG R	100kΩ 1/16W J	
	R1813	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R1815	NRSA63J-101X	MG R	100Ω 1/16W J	
	R1818	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R1820	NRSA63J-101X	MG R	100Ω 1/16W J	
	R1821	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R1823	NRSA63J-101X	MG R	100Ω 1/16W J	
	R1824	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R1826	NRSA63J-101X	MG R	100Ω 1/16W J	
	R1830-31	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R1832	QRE141J-391Y	C R	390Ω 1/4W J	
	R1833	NRSA63J-331X	MG R	330Ω 1/16W J	
	R1834-35	NRSA63J-562X	MG R	5.6kΩ 1/16W J	
	R1836	NRSA63J-750X	MG R	75Ω 1/16W J	
	R1837	NRSA63J-101X	MG R	100Ω 1/16W J	
	R1838	QRK126J-121X	C R	120Ω 1/2W J	
	R1839-40	QRE121J-221Y	C R	220Ω 1/2W J	
	R1841-42	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R1843	NRSA63J-821X	MG R	820Ω 1/16W J	
	R1844	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R1845	NRSA63J-102X	MG R	1kΩ 1/16W J	
	R1846	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R1847	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R1848	NRSA63J-221X	MG R	220Ω 1/16W J	
	R1849	NRSA63J-471X	MG R	470Ω 1/16W J	
	R1880	NRSA63J-202X	MG R	2kΩ 1/16W J	
	R1881	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R1882	NRSA63J-181X	MG R	180Ω 1/16W J	
	R1883	NRSA63J-471X	MG R	470Ω 1/16W J	
	R1902	QRF154K-2R2	UNF R	2.2Ω 15W K	
	R1903	QRL039J-473	OM R	47kΩ 3W J	
	R1904	QRE121J-681Y	C R	680Ω 1/2W J	
	R1905	QRM034J-R10	MP R	0.1Ω 3W J	
	R1908	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R1909	QRE121J-274Y	C R	270kΩ 1/2W J	
	R1911	QRE121J-472Y	C R	4.7kΩ 1/2W J	
	R1912	QRE121J-222Y	C R	2.2kΩ 1/2W J	
⚠	R1913	QRZ9017-4R7	F R	4.7Ω 1/4W J	
	R1914	QRL039J-473	OM R	47kΩ 3W J	
	R1915	QRE121J-394Y	C R	390kΩ 1/2W J	
	R1916	QRE121J-332Y	C R	3.3kΩ 1/2W J	
	R1917	NRSA63J-101X	MG R	100Ω 1/16W J	
	R1918	NRSA63J-224X	MG R	220kΩ 1/16W J	
	R1919	NRSA63J-104X	MG R	100kΩ 1/16W J	
	R1920	NRSA63J-473X	MG R	47kΩ 1/16W J	
	R1921	QRE121J-563Y	C R	56kΩ 1/2W J	
	R1951	QRE121J-223Y	C R	22kΩ 1/2W J	
	R1952	NRSA63J-222X	MG R	2.2kΩ 1/16W J	

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R1953	QRE121J-102Y	C R	1kΩ 1/2W J	
	R1955	QRG01GJ-470	OM R	47Ω 1W J	
	R1956	QRE121J-220Y	C R	22Ω 1/2W J	
	R1957	QRE121J-5R6Y	C R	5.6Ω 1/2W J	
	R1958	QRL039J-820	OM R	82Ω 3W J	
	R1959	QRE121J-820Y	C R	82Ω 1/2W J	
	R1960	NRSA63J-391X	MG R	390Ω 1/16W J	
	R1961	QRL02EJ-223X	OM R	22kΩ 2W J	
	R1963	QRE121J-332Y	C R	3.3kΩ 1/2W J	
	R1964	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R1965	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R1966	NRSA63J-682X	MG R	6.8kΩ 1/16W J	
	R1967	NRSA63J-473X	MG R	47kΩ 1/16W J	
	R1969	QRT02EJ-2R7X	MF R	2.7Ω 2W J	
	R1970	NRSA63J-153X	MG R	15kΩ 1/16W J	
	R1971	NRSA63J-183X	MG R	18kΩ 1/16W J	
⚠	R1991	QRZ0057-825	C R	8.2MΩ 1W J	
	CAPACITOR				
	C1001	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C1002	QETN1HM-106Z	E CAP.	10µF 50V M	
	C1003	QFV71HJ-104Z	MF CAP.	0.1µF 50V J	
	C1004	QETN1CM-477Z	E CAP.	470µF 16V M	
	C1005	NCB31HK-222X	C CAP.	2200pF 50V K	
	C1006	QETN1CM-336Z	E CAP.	33µF 16V M	
	C1007	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C1101-05	NCB31HK-472X	C CAP.	4700pF 50V K	
	C1106-07	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C1109	QETN1HM-106Z	E CAP.	10µF 50V M	
	C1130-32	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C1133	QETN1CM-107Z	E CAP.	100µF 16V M	
	C1134	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C1135	QETN1EM-476Z	E CAP.	47µF 25V M	
	C1136-38	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C1140-42	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C1143	QETN1HM-106Z	E CAP.	10µF 50V M	
	C1144	NCB31HK-223X	C CAP.	0.022µF 50V K	
	C1301-02	NCB31CK-104X	C CAP.	0.1µF 16V K	
	C1304-05	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C1306	NCB31CK-104X	C CAP.	0.1µF 16V K	
	C1307	NDC31HJ-330X	C CAP.	33pF 50V J	
	C1308	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C1401	QETN1HM-105Z	E CAP.	1µF 50V M	
	C1402	QCB31HK-682Z	C CAP.	6800pF 50V K	
	C1403	QEHR1VM-107Z	E CAP.	100µF 35V M	
	C1411-12	NCF21HZ-334X	C CAP.	0.33µF 50V Z	
	C1413	QFLC2AJ-563Z	M CAP.	0.056µF 100V J	
	C1422	QEHR1VM-108Z	E CAP.	1000µF 35V M	
	C1471	QETN1HM-106Z	E CAP.	10µF 50V M	
	C1480	QETN1HM-106Z	E CAP.	10µF 50V M	
	C1483	QEZ0195-475Z	E CAP.	4.7µF 50V M	
	C1485	QETN1HM-226Z	E CAP.	22µF 50V M	
	C1521	QETN1VM-476Z	E CAP.	47µF 35V M	
	C1522	QFLC1HJ-332Z	M CAP.	3300pF 50V J	
	C1523	QFLC1HJ-223Z	M CAP.	0.022µF 50V J	
	C1524	QFZ0196-382	MPP CAP.	3800pF 1.5kVH ±3%	
	C1525	QFZ0200-143	MPP CAP.	0.014µF 1.5kVH ±3%	
	C1526	QFP32JJ-223	PP CAP.	0.022µF 630V J	
	C1527-28	QFZ0199-224	MPP CAP.	0.22µF 250V J	
	C1529	QENC2AM-225Z	BP E CAP.	2.2µF 100V M	
	C1530	QCB32HK-561Z	C CAP.	560pF 500V K	
	C1531	QEHR1EM-108Z	E CAP.	1000µF 25V M	
	C1532	QCB32HK-561Z	C CAP.	560pF 500V K	
	C1533	QEHR1EM-108Z	E CAP.	1000µF 25V M	
	C1534	QCB32HK-561Z	C CAP.	560pF 500V K	
	C1536	QFLC1HJ-103Z	M CAP.	0.01µF 50V J	
	C1540	QFV71HJ-104Z	MF CAP.	0.1µF 50V J	
	C1541	QETN2EM-106Z	E CAP.	10µF 250V M	
	C1550	NCB31CK-104X	C CAP.	0.1µF 16V K	
	C1561	QFV11HJ-683Z	TF CAP.	0.068µF 50V J	
	C1566	QFZ0200-113	MPP CAP.	0.011µF 1.5kVH ±3%	

⚠	Symbol No.	Part No.	Part Name	Description		Local
CAPACITOR						
	C1591	QETN1AM-107Z	E CAP.	100µF	10V	M
	C1592	QETM2CM-227	E CAP.	220µF	160V	M
	C1593	QETN1EM-476Z	E CAP.	47µF	25V	M
	C1625	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1626	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1629	QETN1HM-475Z	E CAP.	4.7µF	50V	M
	C1630	NDC31HJ-471X	C CAP.	470pF	50V	J
	C1631	NCB31EK-333X	C CAP.	0.033µF	25V	K
	C1634	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1636-37	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C1638	NCB31EK-333X	C CAP.	0.033µF	25V	K
	C1639	NDC31HJ-471X	C CAP.	470pF	50V	J
	C1640	QETN1HM-475Z	E CAP.	4.7µF	50V	M
	C1641	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1642	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1643	NCB31HK-562X	C CAP.	5600pF	50V	K
	C1644	QETN1HM-475Z	E CAP.	4.7µF	50V	M
	C1645-46	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1647	NCB31EK-393X	C CAP.	0.039µF	25V	K
	C1648	NCB31HK-223X	C CAP.	0.022µF	50V	K
	C1650	QEHR1HM-105Z	E CAP.	1µF	50V	M
	C1651	QEHQ1HM-107	E CAP.	100µF	50V	M
	C1652	QEHR1HM-105Z	E CAP.	1µF	50V	M
	C1653-54	QFLC1HJ-223Z	M CAP.	0.022µF	50V	J
	C1657-58	QETN1HM-107Z	E CAP.	100µF	50V	M
	C1659-61	NCF21HZ-224X	C CAP.	0.22µF	50V	Z
	C1663	NCF21HZ-224X	C CAP.	0.22µF	50V	Z
	C1665	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1668-69	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1670	NCB31EK-473X	C CAP.	0.047µF	25V	K
	C1671	QETN1CM-476Z	E CAP.	47µF	16V	M
	C1672	NCB31HK-183X	C CAP.	0.018µF	50V	K
	C1673	QETN1CM-336Z	E CAP.	33µF	16V	M
	C1674	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1675	NCB31HK-183X	C CAP.	0.018µF	50V	K
	C1676	NCB31EK-473X	C CAP.	0.047µF	25V	K
	C1681-83	QETN1CM-227Z	E CAP.	220µF	16V	M
	C1684	QETN1HM-475Z	E CAP.	4.7µF	50V	M
	C1685-86	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1702	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1703-04	NDC31HJ-220X	C CAP.	22pF	50V	J
	C1706	NCB21EK-224X	C CAP.	0.22µF	25V	K
	C1707	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1709	QETN0JM-477Z	E CAP.	470µF	6.3V	M
	C1710	QFV21HJ-224Z	MF CAP.	0.22µF	50V	J
	C1711	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1712	QETN1CM-476Z	E CAP.	47µF	16V	M
	C1713	QFV11HJ-104Z	TF CAP.	0.1µF	50V	J
	C1720	QETN1HM-476Z	E CAP.	47µF	50V	M
	C1725	NCB31HK-681X	C CAP.	680pF	50V	K
	C1730-31	NCB21EK-224X	C CAP.	0.22µF	25V	K
	C1732	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1733	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1734-35	NCB31HK-222X	C CAP.	2200pF	50V	K
	C1736-37	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1738	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1739	NFV41CJ-104X	MPP CAP.	0.1µF	16V	J
	C1740	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C1741-42	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1743	QETN1AM-108Z	E CAP.	1000µF	10V	M
	C1744	NCB31HK-222X	C CAP.	2200pF	50V	K
	C1745-47	NCB31EK-473X	C CAP.	0.047µF	25V	K
	C1749	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1751-53	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C1801-02	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1803-04	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1805	QFLC1HJ-104Z	M CAP.	0.1µF	50V	J
	C1807-08	NCF31AZ-105X	C CAP.	1µF	10V	Z
	C1810	NCF31AZ-105X	C CAP.	1µF	10V	Z
	C1811	QFLC1HJ-104Z	M CAP.	0.1µF	50V	J
	C1812	NCF31AZ-105X	C CAP.	1µF	10V	Z
	C1813	NCB31HK-103X	C CAP.	0.01µF	50V	K

⚠	Symbol No.	Part No.	Part Name	Description		Local
CAPACITOR						
	C1814	QFLC1HJ-104Z	M CAP.	0.1µF	50V	J
	C1815	NCF31AZ-105X	C CAP.	1µF	10V	Z
	C1817	NCF31AZ-105X	C CAP.	1µF	10V	Z
	C1819	QFLC1HJ-104Z	M CAP.	0.1µF	50V	J
	C1820-21	NCF31AZ-105X	C CAP.	1µF	10V	Z
	C1822	QETN1AM-477Z	E CAP.	470µF	10V	M
	C1823-24	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1825	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1826	QFLC1HJ-104Z	M CAP.	0.1µF	50V	J
	C1827	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1829-31	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1834	NDC31HJ-181X	C CAP.	180pF	50V	J
⚠	C1902	QFZ9073-104	MF CAP.	0.1µF		
	C1903-05	QCZ9015-102Z	C CAP.	1000pF	250V	Z
	C1907	QEZ0371-337	E CAP.	330µF	400V	M
	C1909	QCZ0325-821	C CAP.	820pF	2000V	K
	C1910	NDC31HJ-471X	C CAP.	470pF	50V	J
	C1911	QETN1HM-476Z	E CAP.	47µF	50V	M
	C1916	QETN1EM-476Z	E CAP.	47µF	25V	M
	C1917	QCB32HK-181Z	C CAP.	180pF	500V	K
	C1918	QCB32HK-103	C CAP.	0.01µF	500V	K
	C1919	QCZ0325-391	C CAP.	390pF	2000V	K
	C1952	QCB32HK-471Z	C CAP.	470pF	500V	K
	C1953	QEHQ1HM-228	E CAP.	2200µF	50V	M
	C1955	QCB32HK-471Z	C CAP.	470pF	500V	K
	C1956	QETN1VM-107Z	E CAP.	100µF	35V	M
	C1957	QCB31HK-471Z	C CAP.	470pF	50V	K
	C1958	QEHR1CM-108Z	E CAP.	1000µF	16V	M
	C1959	QCZ0364-561	C CAP.	560pF		
	C1960	QEZ0203-227	E CAP.	220µF	160V	M
	C1962	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1963	QETN1CM-477Z	E CAP.	470µF	16V	M
	C1964	QETN1CM-476Z	E CAP.	47µF	16V	M
	C1965	QETN1VM-476Z	E CAP.	47µF	35V	M
	C1966	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1968	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1972	QETN1HM-476Z	E CAP.	47µF	50V	M
	C1974	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C1975	QETN1CM-227Z	E CAP.	220µF	16V	M
	C1977	QETN1EM-476Z	E CAP.	47µF	25V	M
	C1978	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C1980	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1981	NCB31HK-102X	C CAP.	1000pF	50V	K
	C1982	QETN1CM-476Z	E CAP.	47µF	16V	M
	C1983	QETN1CM-107Z	E CAP.	100µF	16V	M
⚠	C1991	QCZ9079-102	C CAP.	1000pF	250V	M
⚠	C1992-93	QCZ9079-471	C CAP.	470pF	250V	K

TRANSFORMER

	T1521	QQR1229-001	DRIVE TRANSF.
⚠	T1551	QQH0096-001	FLYBACK TRANSF.
	T1561	QQR1153-001	DEF.TRANSF.
⚠	T1901	QQS0110-001	SWICH.TRANSF.

COIL

	L1001-02	QQL244K-8R2Z	COIL	8.2µH	K
	L1101-02	QQL244K-5R6Z	COIL	5.6µH	K
	L1103	QQL244K-100Z	COIL	10µH	K
	L1104	QQL244K-180Z	COIL	18µH	K
	L1301	QQL244K-221Z	COIL	220µH	K
	L1401	QQL26AK-220Z	COIL	22µH	K
	L1480	QQR1138-001	CHOKE COIL		
	L1523	QQR1243-001	LINEARITY COIL		
	L1541	QQL244K-220Z	COIL	22µH	K
	L1561	QQLZ028-272	CHOKE COIL		
	L1701-02	QQL244K-100Z	COIL	10µH	K
	L1731	QRN143J-0R0X	C R	0.0Ω 1/4W	J
	L1951	QQLZ034-460	CHOKE COIL		
	L1953	QQL244J-5R6Z	COIL	5.6µH	J
	L1954	QQL26AK-820Z	COIL	82µH	K

⚠	Symbol No.	Part No.	Part Name	Description	Local
	DIODE				
	D1101	DAN235K-X	SI.DIODE		
	D1401	RGP10J-5025-T3	SI.DIODE		
	D1402	MTZJ75-T2	ZENER DIODE		
	D1405	1N4003-T2	SI.DIODE		
	D1408	MA111-X	SI.DIODE		
	D1480	MTZJ4.3A-T2	ZENER DIODE		
	D1521	RH3G-F1	SI.DIODE		
	D1522	31DF6N-FC5	DIODE		
	D1523	RGP10J-5025-T3	SI.DIODE		
	D1541	RGP10J-5025-T3	SI.DIODE		
	D1550	MA111-X	SI.DIODE		
	D1551	EU2-T3	SI.DIODE		
	D1553	RGP10J-5025-T3	SI.DIODE		
	D1554	RGP10J-5025-T3	SI.DIODE		
	D1592	MA3075/H/-X	ZENER DIODE		
	D1652-53	MA3330/L/-X	ZENER DIODE		
	D1682	MA111-X	SI.DIODE		
	D1683	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	D1702	MA3020-X	ZENER DIODE		
	D1730-33	MA111-X	SI.DIODE		
	D1801-02	MA3120/M/-X	ZENER DIODE		
	D1901	GSIB460	DIODE		
	D1902	MTZJ33B-T2	ZENER DIODE		
	D1903	1SS133-T2	SI.DIODE		
	D1906	MTZJ27B-T2	ZENER DIODE		
	D1907	MTZJ33B-T2	ZENER DIODE		
	D1908	MA3200/M/-X	ZENER DIODE		
	D1909	MA111-X	SI.DIODE		
	D1910	MA3075/H/-X	ZENER DIODE		
	D1911	RGP10J-5025-T3	SI.DIODE		
	D1912	RGP10J-5025-T3	SI.DIODE		
	D1913	RGP10M-5010-T3	SI.DIODE		
	D1914	1SS133-T2	SI.DIODE		
	D1915	MA3068/M/-X	ZENER DIODE		
	D1916	MTZJ15B-T2	ZENER DIODE		
	D1950	RGP10J-5025-T3	SI.DIODE		
	D1952	FSF05A20	SI.DIODE		
	D1953	RGP10J-5025-T3	SI.DIODE		
	D1954	RU30A-F1	SI.DIODE		
	D1955	1SR35-400A-T2	SI.DIODE		
	D1956	31DF6N-FC5	DIODE		
	D1958	MTZJ5.1A-T2	ZENER DIODE		
	D1960	MA111-X	SI.DIODE		
	D1964	MA3330/L/-X	ZENER DIODE		
	D1966	MA3039/H/-X	ZENER DIODE		
	D1968-69	MA111-X	SI.DIODE		
	D1970	MTZJ9.1B-T2	ZENER DIODE		
	D1971	MA111-X	SI.DIODE		
	TRANSISTOR				
	Q1101	2SC5083/L-P/-T	SI.TRANSISTOR		
	Q1102	DTC124EKA-X	DIGI.TRANSISTOR		
	Q1104	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1105-06	DTC124EKA-X	DIGI.TRANSISTOR		
	Q1107	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1108	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1109	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1110	DTC124EKA-X	DIGI.TRANSISTOR		
	Q1111	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1130	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1131	DTC124EKA-X	DIGI.TRANSISTOR		
	Q1132	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1133	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1134-35	DTC124EKA-X	DIGI.TRANSISTOR		
	Q1136-37	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1301-02	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1303	DTC124EKA-X	DIGI.TRANSISTOR		
	Q1304	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1480	2SD1408/OY/-LB	SI.TRANSISTOR		
	Q1521	2SC2655/Y/-T	SI.TRANSISTOR		
	Q1522	2SD2634-YD	SI.TRANSISTOR		
	Q1591	2SA1208/ST/Z1-T	SI.TRANSISTOR		

⚠	Symbol No.	Part No.	Part Name	Description	Local
	TRANSISTOR				
	Q1592	DTC124EKA-X	DIGI.TRANSISTOR		
	Q1683-84	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1685-86	DTC323TK-X	DIGI.TRANSISTOR		
	Q1687	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1701-02	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1703	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1720	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1801-02	DTC323TK-X	DIGI.TRANSISTOR		
	Q1803	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1804	2SC1740S/QR/-T	SI.TRANSISTOR		
	Q1833	QETN1HM-226Z	E CAP.	22µF 50V M	
	Q1860	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1861-62	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1901	2SC3852A	SI.TRANSISTOR		
	Q1902-03	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1951	2SA1013/RO/-T	SI.TRANSISTOR		
	Q1952-54	2SC2412K/QR/-X	SI.TRANSISTOR		
	IC				
	IC1130	M52342SP	I.C(MONO-ANA)		
	IC1301	TDA9181T/N1-X	I.C(MONO-ANA)		
	IC1401	LA78041	I.C(MONO-ANA)		
	IC1461	JLC1562BF-X	I.C(DIGI-MOS)		
	IC1480	UPC358G2-XE	I.C(MONO-ANA)		
	IC1602	BH3865S	I.C		
	IC1650	AN5275	I.C(MONO-ANA)		
	IC1665	BA4558F-X	I.C(MONO-ANA)		
	IC1701	TDA9386PS/N1	I.C		
	IC1702	AT24C08-29LXB	I.C(MEMORY-OTH)	(SERVICE)	
	IC1801	MM1492AF	I.C(MONO-ANA)		
	IC1901	STR-F6456S/F7	I.C(HYBRID)		
	IC1951	SE135N	I.C(HYBRID)		
	IC1972	L88M33T-X	I.C(MONO-ANA)		
	IC1973	BA17812T	I.C(MONO-ANA)		
	IC1974	BA51W12ST-V5	I.C(MONO-ANA)		
	OTHERS				
		CEMS007-008	I.C.SOCKET		
		QXT620H-015	VINYL TUBE		
	CF1103	TPSH6.0MB	CERAMIC FILTER		
	CF1104	TPS5.5MW	CERAMIC FILTER		
	CF1105	TPS6.5MB	CERAMIC FILTER		
	CF1106	QAX0639-001Z	CERAMIC FILTER		
	CF1130	QAX0642-001Z	CERAMIC FILTER		
	CF1140	QAX0336-001	CERAMIC FILTER		
	CF1141	QAX0337-001	CERAMIC FILTER		
	CF1142	QAX0338-001	CERAMIC FILTER		
⚠	CP1650	ICP-N50-Y	I.C.PROTECT		
⚠	CP1951	ICP-N75-Y	I.C.PROTECT		
⚠	CP1953	ICP-N38-Y	I.C.PROTECT		
	J1801	QNN0349-001	PIN JACK		
	J1802	QNN0349-002	PIN JACK		
	J1803	QNN0348-001	PIN JACK		
	J1804	QNN0349-001	PIN JACK		
	K1301	CE41433-001Z	BEADS CORE		
	K1903	QQR1214-001Y	FERRITE BEADS		
	K1904	CE42050-001Z	CORE		
	K1952-55	QQR1214-001Y	FERRITE BEADS		
⚠	LF1901	QQR1035-002	LINE FILTER		
⚠	PC1901	PC123F2	I.C(PH.COUPLER)		
⚠	RY1901	QSK0061-001	RELAY		
	SF1101	QAX0325-001	SAW FILTER		
	SF1102	QAX0594-001	SAW FILTER		
	TH1901	QAD0134-4R5	P.THERMISTOR		
	TU1001	QAU0185-003	TUNER		
	W1010	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1067	QQR1214-001Y	FERRITE BEADS		
	W1071	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1239	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1257	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W1260	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	

⚠	Symbol No.	Part No.	Part Name	Description		Local
	OTHERS					
	W1273	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1304	QRE121J-221Y	C R	220Ω	1/2W	J
	W1306-07	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1309	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1310	QRE121J-221Y	C R	220Ω	1/2W	J
	W1321-22	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1325-26	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1330	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1333	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1339-40	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1347	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1355	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1366	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1379	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1386	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1395	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1397	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1402-03	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1408	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1418	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1423	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	W1426-27	QRE141J-0R0Y	C R	0.0Ω	1/4W	J
	X1701	QAX0688-001	CRYSTAL			
	Y1001-02	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	Y1130	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	Y1601-02	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J

CRT SOCKET PW BOARD ASS'Y (SCH-3001A-H2)

⚠	Symbol No.	Part No.	Part Name	Description		Local
	RESISTOR					
	R3101	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R3102	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R3103	NRSA63J-153X	MG R	15kΩ	1/16W	J
	R3104	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R3105	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R3106	NRSA63J-272X	MG R	2.7kΩ	1/16W	J
	R3107	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R3108	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R3109	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R3125	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R3126	QRE121J-393Y	C R	39kΩ	1/2W	J
	R3128	QRE141J-473Y	C R	47kΩ	1/4W	J
	R3129	QRE141J-223Y	C R	22kΩ	1/4W	J
	R3142	NRSA63J-101X	MG R	100Ω	1/16W	J
	R3150	QRZ0107-152Z	C R	1.5kΩ	1/2W	K
	R3152	NRSA63J-101X	MG R	100Ω	1/16W	J
	R3160	NRSA63J-101X	MG R	100Ω	1/16W	J
	R3166	QRZ0107-152Z	C R	1.5kΩ	1/2W	K
	R3170	QRZ0107-474Z	C R	470kΩ	1/2W	K
	R3171	QRZ0107-152Z	C R	1.5kΩ	1/2W	K
	R3172	NRSA63J-101X	MG R	100Ω	1/16W	J
⚠	R3175	QRZ9021-1R5	F R	1.5Ω	1W	J
	R3176	QRE121J-123Y	C R	12kΩ	1/2W	J
	R3211	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R3212	NRSA63J-153X	MG R	15kΩ	1/16W	J
	R3213	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R3214	NRSA63J-152X	MG R	1.5kΩ	1/16W	J
	R3215	NRSA63J-680X	MG R	68Ω	1/16W	J
	R3216	NRSA63J-221X	MG R	220Ω	1/16W	J
⚠	R3217	QRJ146J-100X	C R	10Ω	1/4W	J
	R3221-22	NRSA63J-470X	MG R	47Ω	1/16W	J
	R3224	NRSA63J-122X	MG R	1.2kΩ	1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description		Local
	RESISTOR					
	R3225-26	QRE121J-563Y	C R	56kΩ	1/2W	J
	R3227	NRSA63J-122X	MG R	1.2kΩ	1/16W	J
	R3228	NRSA63J-390X	MG R	39Ω	1/16W	J
	R3229-30	QRE121J-2R7Y	C R	2.7Ω	1/2W	J
	R3231	NRSA63J-390X	MG R	39Ω	1/16W	J
	R3232	QRE121J-121Y	C R	120Ω	1/2W	J
	R3233	QRL029J-391	OM R	390Ω	2W	J
	R3251	NRSA63J-822X	MG R	8.2kΩ	1/16W	J
	R3252	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R3253	NRSA63J-101X	MG R	100Ω	1/16W	J
	R3254	NRSA63J-563X	MG R	56kΩ	1/16W	J
	R3255	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R3256	NRSA63J-681X	MG R	680Ω	1/16W	J
	R3257	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R3258	NRSA63J-182X	MG R	1.8kΩ	1/16W	J
	R3259	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R3260	NRSA63J-271X	MG R	270Ω	1/16W	J
	R3261-63	NRSA63J-101X	MG R	100Ω	1/16W	J
	R3264	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R3265	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R3266	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R3267	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R3268	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R3269	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R3270	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R3271	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R3272	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R3273	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R3274	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R3275	NRSA63J-102X	MG R	1kΩ	1/16W	J
	CAPACITOR					
	C3101	QETN1CM-477Z	E CAP.	470µF	16V	M
	C3102	QETN2EM-475Z	E CAP.	4.7µF	250V	M
	C3107	QETM2EM-336	E CAP.	33µF	250V	M
	C3109	QCZ0131-472	C CAP.	4700pF	2000V	K
	C3110	QCZ0131-222	C CAP.	2200pF	2000V	K
	C3121	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C3123	QFK62EK-104Z	MM CAP.	0.1µF	250V	K
	C3204	NDC31HJ-561X	C CAP.	560pF	50V	J
	C3205	QETN1HM-335Z	E CAP.	3.3µF	50V	M
	C3206	QETN1HM-106Z	E CAP.	10µF	50V	M
	C3209	QETN1CM-107Z	E CAP.	100µF	16V	M
	C3211	NDC31HJ-391X	C CAP.	390pF	50V	J
	C3212	QCB32HK-472Z	C CAP.	4700pF	500V	K
	C3213	NDC31HJ-561X	C CAP.	560pF	50V	J
	C3214	QETN2CM-106Z	E CAP.	10µF	160V	M
	C3215	QCB32HK-472Z	C CAP.	4700pF	500V	K
	C3216	QETN2CM-106Z	E CAP.	10µF	160V	M
	C3217-18	QETN1AM-107Z	E CAP.	100µF	10V	M
	C3219	QETN1AM-337Z	E CAP.	330µF	10V	M
	C3251	QENC1HM-105Z	BP E CAP.	1µF	50V	M
	C3252	NDC31HJ-151X	C CAP.	150pF	50V	J
	C3253	NDC31HJ-560X	C CAP.	56pF	50V	J
	C3255	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C3264-66	QETN1AM-107Z	E CAP.	100µF	10V	M
	COIL					
	L3121	QQL244J-5R6Z	COIL	5.6µH		J
	L3251	QQL244K-150Z	COIL	15µH		K
	DIODE					
	D3108	MA3075/H/-X	ZENER DIODE			
	D3109	MA3051/H/-X	ZENER DIODE			
	D3110	MA111-X	SI.DIODE			
	D3111	MA3051/H/-X	ZENER DIODE			
	D3112	MA111-X	SI.DIODE			
	D3113	MA3051/H/-X	ZENER DIODE			
	D3114	MA111-X	SI.DIODE			
	D3115-17	EU01N-T2	SI.DIODE			
	D3121-23	1N4003-T2	SI.DIODE			

⚠	Symbol No.	Part No.	Part Name	Description		Local
	DIODE					
	D3124	MA111-X	SI.DIODE			
	D3125	MTZJ75-T2	ZENER DIODE			
	D3201-02	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	D3203	RGP10J-5025-T3	SI.DIODE			
	D3204	RGP10J-5025-T3	SI.DIODE			
	TRANSISTOR					
	Q3101-03	2SC2412K/QR/-X	SI.TRANSISTOR			
	Q3121	2SC4212/Z1/	SI.TRANSISTOR			
	Q3122	2SA1037AK/QR/-X	SI.TRANSISTOR			
	Q3204-05	2SC1740S/QR/-T	SI.TRANSISTOR			
	Q3206	2SA933AS/QR/-T	SI.TRANSISTOR			
	Q3209	2SA1964/DE/	SI.TRANSISTOR			
	Q3210	2SC5248/DE/	SI.TRANSISTOR			
	Q3251	2SA1037AK/QR/-X	SI.TRANSISTOR			
	Q3252	2SC2412K/QR/-X	SI.TRANSISTOR			
	Q3253	2SA1037AK/QR/-X	SI.TRANSISTOR			
	Q3261-63	2SA1037AK/QR/-X	SI.TRANSISTOR			
	Q3264-66	2SC2412K/QR/-X	SI.TRANSISTOR			
	IC					
	IC3101	TDA6107Q/N2	I.C(MONO-ANA)			
	OTHERS					
	DL3261-63	CE41925-001	DELAY LINE			
⚠	FR3201	QRZ9021-561	F R	560Ω	1W	J
	K3201-04	CE41492-001Z	CHOKE COIL			
	SG3101-03	QAF0006-501	ARRESTER			
	SG3104	QAF0041-272	ARRESTER			
⚠	SK3001	CE42670-001	C.R.T.SOCKET			

FRONT CONTROL PW BOARD ASS'Y (SCH-8001A-H2)

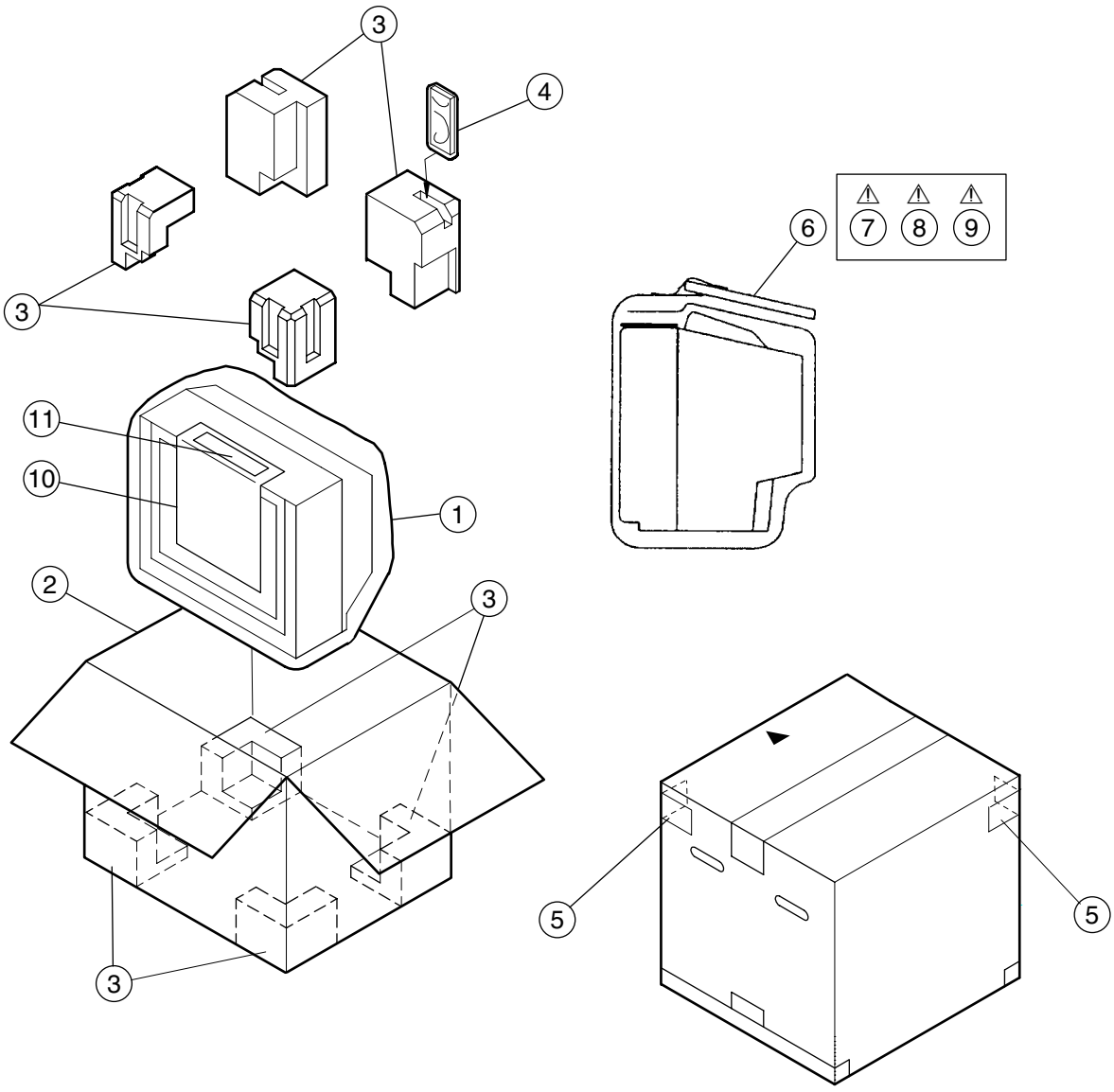
⚠	Symbol No.	Part No.	Part Name	Description		Local
	RESISTOR					
	R8482	NRSA63J-124X	MG R	120kΩ	1/16W	J
	R8483	NRSA63J-683X	MG R	68kΩ	1/16W	J
	R8484-85	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R8486	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R8487	NRSA63J-332X	MG R	3.3kΩ	1/16W	J
	R8488	NRSA63J-154X	MG R	150kΩ	1/16W	J
	R8489	NRSA63J-104X	MG R	100kΩ	1/16W	J
	R8490	QQL01BK-820Z	COIL	82µH		K
	R8491-92	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R8495	NRSA63J-152X	MG R	1.5kΩ	1/16W	J
	R8497	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R8499	QRE121J-561Y	C R	560Ω	1/2W	J
	R8801	NRSA63J-332X	MG R	3.3kΩ	1/16W	J
	R8802	NRSA63J-392X	MG R	3.9kΩ	1/16W	J
	R8803	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R8805	NRSA63J-682X	MG R	6.8kΩ	1/16W	J
	R8807	NRSA63J-181X	MG R	180Ω	1/16W	J
	R8808	NRSA63J-221X	MG R	220Ω	1/16W	J
	R8809	NRSA63J-331X	MG R	330Ω	1/16W	J
	R8810	NRSA63J-471X	MG R	470Ω	1/16W	J
	R8811	NRSA63J-821X	MG R	820Ω	1/16W	J
	R8812	NRSA63J-122X	MG R	1.2kΩ	1/16W	J
	R8813	NRSA63J-471X	MG R	470Ω	1/16W	J
	R8814	NRSA63J-750X	MG R	75Ω	1/16W	J
	R8815-16	QRE121J-271Y	C R	270Ω	1/2W	J
	R8817-18	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R8819	NRSA63J-272X	MG R	2.7kΩ	1/16W	J
	R8826	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R8830-31	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
⚠	R8901	QRZ0111-474	C R	470kΩ	1/2W	K

⚠	Symbol No.	Part No.	Part Name	Description		Local
	CAPACITOR					
	C8481-84	NCB21EK-224X	C CAP.	0.22µF	25V	K
	C8485	QETN1EM-476Z	E CAP.	47µF	25V	M
	C8487	QFLC1HJ-103Z	M CAP.	0.01µF	50V	J
	C8660-61	QETM1VM-108	E CAP.	1000µF	35V	M
	C8801	QETN1HM-106Z	E CAP.	10µF	50V	M
	C8802	QETN1CM-107Z	E CAP.	100µF	16V	M
	C8803	NCB31CK-104X	C CAP.	0.1µF	16V	K
	C8815	QETN1CM-107Z	E CAP.	100µF	16V	M
⚠	C8901	QFZ9073-224	MF CAP.	0.22µF		
	DIODE					
	D8601-02	MTZJ75-T2	ZENER DIODE			
	D8801	MA111-X	SI.DIODE			
	D8802	P1241-04	C.D.S.			
	D8803	SLR-342VR-T16	L.E.D.			
	TRANSISTOR					
	Q8481	2SC2412K/QR/-X	SI.TRANSISTOR			
	Q8801	2SA1037AK/QR/-X	SI.TRANSISTOR			
	IC					
	IC8481	LA6515	I.C(MONO-ANA)			
	IC8801	GP1U281Q	IFR DETECT UNIT			
	OTHERS					
		CM35921-005-H	CDS HOLDER			
		CM36626-B01-H	L.E.D.HOLDER			
⚠	F8901	QMF51E2-4R0J4	FUSE			
	FC8901	CEMG002-001Z	FUSE CLIP			
	J8302	QNN0279-003	PIN JACK			
	J8303	QNN0279-002	PIN JACK			
	J8304	QNN0279-001	PIN JACK			
	J8801	QNS0155-001	JACK			
⚠	LF8901	QQR1035-002	LINE FILTER			
	S8801	QSW0619-003Z	PUSH SWITCH	CH+		
	S8802	QSW0619-003Z	PUSH SWITCH	CH-		
	S8803	QSW0619-003Z	PUSH SWITCH	MENU		
	S8804	QSW0619-003Z	PUSH SWITCH	TV/VIDEO		
	S8805	QSW0619-003Z	PUSH SWITCH	VOL+		
	S8806	QSW0619-003Z	PUSH SWITCH	VOL-		
⚠	S8901	QSW0750-001	PUSH SWITCH	POWER		
⚠	VA8901	QAF0052-621	VARISTOR			
	Y8401	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J

REMOTE CONTROL UNIT PARTS LIST (RM-C357-1C)

⚠	Ref.No.	Part No.	Part Name	Description	Local
		31392340128	BATTERY COVER		

PACKING



PACKING PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	CP30967-004-H	POLY BAG		
	2	GG10044-029A-H	P CASE		
	3	LC11066-002B-H	CUSHION ASSY		
	4	RM-C357-1C	RC HAND UNIT		
	5	GG20012-001A-H	CORNER LABEL	(X2)	
	6	CP30966-001-H	POLY BAG		
⚠	7	LCT0935-001B-H	INST BOOK		
⚠	8	LCT0937-001A-H	DIGEST MANUAL		
⚠	9	QAM0055-001	CONVERSION PLUG	[AV-29LXB-A]	
	10	LC30946-001A-H	CRT PROTECTOR		
	11	LC30947-002A-H	CAUTION SHEET		